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ABSTRACT

This report documents programs linking education and
work in the Commonwealth of Nations. It contains four parts:
"Learning about Science and Technology Outside School: Project
Review" (Keith Lewin, Roger Jones); "Education and Productive Work
Linkages in the Formal and Non-Formal Educational Systems of the
Commonwealth Caribbean" (Zellynne Jennings); "Learning about Science
and Technology Outside Schools: Report on a Field Study in Kenya and
the Seychelles" (John Oxenham); and "After Training, What?: Youth
Training and Self-Employment in Botswana and Zambia" (Wim Hoppers).
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EDUCATION, TRAINING AND WORK

Some Commonwealth Responses
to Youth Unemployment

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INTRODUCTION

Throughout the Commonwealth governments are concerned at high levels of youth unemployment. This concern was reflected at both the Commonwealth Youth Affairs Council, meeting in 1984, and the ninth conference of Commonwealth education ministers in the same year. Ministers at both meetings asked the Commonwealth Secretariat to review Commonwealth experience of education and training in relation to youth employment. The Secretariat's Human Resource Development Group therefore set in train a number of activities and enquiries including a review of programmes which linked education and work. This review makes up the present volume.

It has four parts mainly, though not entirely, concentrated on opportunities for education and training outside school. None are comprehensive, or intended to be: a comprehensive review of the subject would be beyond the resources of the Secretariat and perhaps of limited value. Rather the intention was to review exemplary experience in a number of Commonwealth countries as a guide for further activity or enquiry. Thus the four papers comprise a review of the case-study literature on education in science and technology outside school throughout the Commonwealth; a review of experience in linking education and productive work in the Caribbean; a case study of out-of-school education in Kenya and the Seychelles; and a study of youth training and self employment in Botswana and Zambia.

The first paper is a review by Keith Lewin of the University of Sussex of learning about science and technology outside school. It was commissioned because of a consensus that opportunities for employment might be improved if young people had an opportunity to learn about science and technology without having to attend, or go back to school. The paper brings together and analyses evidence from a range of case studies of projects and programmes.

Zellyne Jennings, of the University of the West Indies, carried out a parallel review of linking education and work both in the formal and the non-formal education systems of the Commonwealth Caribbean. In her examination of the Caribbean experience she contrasts programmes of offering opportunities for work experience within school with programmes that are based outside school.

The other two papers are more narrowly focussed. John Oxenham, of the Institute of Development Studies at the University of Sussex, carried out a pair of field surveys of opportunities to learn about science and technology outside school in Kenya and Seychelles. Thus the paper is a complement to the first literature review, examining the same issues, but from the standpoint of the individual learner in two contrasted countries.

Finally, Wim Hoppers, of the Centre for the Study of Education in Developing countries at the Hague, examined the opportunities for youth in Botswana and Zambia, with a particular concern for opportunities for self employment. His paper compares the Botswana experience of the brigades with the wider variety of approaches to out-of-school training in Zambia.

The experience reviewed in the four papers is, of course, varied and does not lend itself to quick generalisation or easy summary. One difficulty in generalising is the shortage of hard data; more than one of the writers bemoans the lack of evaluation so that evidence of success or failure has to be inferred from anecdotal evidence, or from the survival and disappearance of

projects and programmes. But, even if the data were better, generalisation would remain difficult; we would still want to point up the key differences between Commonwealth countries which mould the programmes examined. There are differences of ideology which affect the role of the public and private sector and affect the destination of young people who have undertaken training. There are differences between economies, with the formal and informal sectors of the economy taking quite different proportions of young people entering the work force. And there are differences in the scale and nature of the educational system which means that an after-school programme in one country will follow primary school and in another will follow secondary school.

Despite these differences, there are commonalities, and three of these give a shape of the varied experience reported.

The first has to do with scale. Despite the variety of experience, none of the programmes reported or examined by the authors were of the same order of magnitude as the formal educational system in the country concerned. Most children who go to school still go to conventional school, following a more or less conventional curriculum, and follow this with employment in the formal or informal sector - in an increased number of cases after a spell of unemployment or under-employment. Opportunities for job training, or for relating education more closely to work, are the exception rather than the rule. Even the programmes which have a solid history of achievement, and have attracted international attention for it, like the youth polytechnics of Kenya or the brigades of Botswana are reaching a small proportion of the age group. Formal schools remain the first choice of many parents and children in most countries, and are little affected by vocationally oriented alternatives outside.

The second common feature can be stated briefly, though its solution demands incommensurate resources; few of the programmes examined addressed the educational needs of girls or young women and most recruited far more male than female students. Where programmes were addressed to women and girls, they usually concerned themselves with domestic skills or occasionally small-scale domestic production. Gender stereotyping seems as strong a feature of out-of-school education as it is within schools; a reference to young women training as plumbers in Mombasa is a rare exception.

Third, while the purpose and structure of the programmes varied widely, all faced the need for links between what the programmes were doing and with agencies and institutions outside. The links were of four kinds; with their host communities, with governments, with employers in the formal or informal sector, and with schools.

The nature of the link with the host community was, of course, dependent on the political context within which a training programme was working and on the job opportunities for its trainees. In Kenya, for example, communities were encouraged to support youth polytechnics while in the Caribbean the possibility of drawing specialist staff from the community was seen as one way of overcoming frequent shortages of skilled instructors for work programmes at school. There were important opportunities for partnership between vocational training and the activities of the informal sector. Most programmes saw the importance of their links with the local community as paramount and used a variety of measures to maintain and strengthen them.

In some cases trainees were expecting to enter the formal sector of employment, in some cases the informal sector, and in some cases to enter self employment. The training required was likely to differ, sometimes in subtle ways; training for self employment might require a wider range of practical skills, as well as some management and financial skills, while training for wage employment in the modern sector might require deeper specialisation in a narrower range of skills.

Relationships with government were of key importance although, again, the nature of these was determined by broad questions of ideology. The Seychelles requirement that education should be provided only by public bodies contrasted with policies that favoured private enterprise in education. Many governments expressed support for work-related education, as they had done since at least as early as 1845 in the Caribbean. But this had seldom resulted in a policy of making job-related education the norm, rather than a second-best for less academic children.

Many programmes had reported difficulties in establishing a consistently and mutually rewarding relationship with employers. While academic education has been criticised for its irrelevance to the needs of employers, job-related programmes seem to have had as great difficulty in gearing what they were doing to the current needs of employers. Particular difficulties were reported from the Caribbean in running vocational programmes within school, because of the costs and difficulty of getting appropriate equipment and recruiting instructors; experience of non-formal education was more encouraging.

Lastly, it was necessary for job-related programmes to work out their relationship with schools. One kind of relationship was between a school with such a programme and other more academically oriented schools; the brigades in Botswana, and schools with a work-experience element in the curriculum in the Caribbean, existed alongside more conventional secondary schools. A different sort of relationship existed where young people were moving from school into job training on leaving primary school, or after some secondary education, or after a full secondary course. One way of expanding educational opportunity - although one on which there is as yet little experience to report - was to make wider use of school premises for those in educational or training programmes outside their walls.

This analysis of the commonalities may seem negative. It has focussed on the difficulties which have been faced by the programmes discussed rather than on their achievements. The achievements should not be forgotten; they mean that thousands of children and young people have had some chance of a better life that would not be available without this group of under-resourced and under-recognised programmes about education and work. But the negative emphasis is deliberate. It is from the identification and analysis of the difficulties that the rich Commonwealth experience reported here can be used to help others working on education and training and to help their students and trainees. The strength of the reports that follow lies in this analysis.

LEARNING ABOUT SCIENCE AND TECHNOLOGY OUTSIDE SCHOOL

PROJECT REVIEW

BEST COPY AVAILABLE

The Institute of Development Studies,
University of Sussex,
Falmer, Brighton,
Sussex

Keith Lewin with Roger Jones
October 1985

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Section 1

INTRODUCTION

The focus of the Project Review was on science and technology education and training initiatives for school leavers at post-primary levels who had dropped out (or been pushed out) of the formal system in Commonwealth developing countries. It included those who were unemployed, those in part time and marginal forms of employment, and those with jobs who were seeking additional skills to improve their social and economic conditions of life. It was hoped to identify independent learning opportunities in science and technology which might cater for the needs of these individuals. This part of the study is a literature based review and commentary. It was undertaken using the library resources of the University of Sussex and the Institute of Development Studies. In addition a wide range of individuals in other institutions were consulted, and searches of the AERDC data base (Reading University), ERIC, the British Education Index, and the Commonwealth Agricultural Bureau Abstracts were conducted.

This report is organized in four sections. The first provides an introduction to the literature review and summarizes the initial brief. The second lists the projects identified and elaborates on the main features of different types of provision. Section 3 consists of an analysis and commentary on the experiences represented in the literature and raises issues stemming from these. The fourth offers some concluding remarks.

This study gave special attention to four groups which were not mutually exclusive. First, girls and young women. Second, those pursuing secondary education on a part time basis following on from full time schooling. Third, those seeking to obtain science and technology qualifications by re-taking examinations already taken and failed in formal school. Fourth, self employed and unemployed school leavers seeking additional skills.

The original brief also identified concerns for

- identifying unmet needs for these groups that might be catered for by extending existing facilities;
- noting the likely practical and organizational problems;
- exploring the opportunities for supporting the needs of independent learners;
- considering the role distance teaching might play;
- exploring content and process aspects of curricula associated with different types of provision.

As the literature review proceeded it became clear that some aspects of the initial brief were not readily accessible through the documentation available. The major difficulties fell in the following areas.

Very few projects were identified that would come under a restricted

view of independent learning. The closest to this were distance learning programmes. Most of these were biased towards providing opportunities to resit, or take for the first time, formal examinations leading to qualifications similar to those available in school. These courses generally had an academic bias. Most other projects involved more closely guided learning dependent on formal inputs from teaching staff and community development workers. These projects presumed that much of the initiative for learning must originate from outside the individual. They were not independent learning in the sense of individuals constructing and following their own programmes to meet specific needs for skills and information.

Some women's projects were located but there were few that strayed beyond the familiar territory of domestic science, health care and improved agricultural practice. Most of those that did were concerned with craft based production to increase female earnings. Females appeared greatly underrepresented in science and technology outside the above categories in the majority of projects which were normally open to participants of both sexes.

There is a high level of activity connected with 'academic repair jobs' in many Commonwealth countries. This is typically concentrated in small private sector organizations offering chances to resit for formal sector qualifications failed in school. These operate as much for commercial gain as for the educational benefit of their clients. They tend to be invisible in the literature since they are not publicly controlled or evaluated. They are important in reflecting patterns of demand and in putting pressure on public institutions to make provisions of similar kinds. They can only be effectively reviewed through field work.

Some examples of in-school projects were included where these were orientated to keeping in school pupils who would normally have left. This seemed to us legitimate in so far as they were attempts to meet the kinds of needs on which the study was targetted through pre-emptive action. There are many initiatives that could fall under these headings and we restricted ourselves to a small number of apparently promising ones we came across in the course of our searches.

A continuing problem in undertaking the review was to specify what should be included as scientific and technological education and training. Our suspicion was that many of the programmes described operated at a reception level of learning where specific information on what was thought to be good practice was disseminated to learners without making many demands at higher cognitive levels. Some projects with a focus on production skills seemed to concentrate mostly on fabrication techniques and the acquisition of motor skills, rather than problems of creative design and problem solving based on an understanding of causal links and the physical principles on which processes were based. Even with initiatives linked to formal sector qualification (e.g. the distance learning projects) there was no certainty that science was being presented as more than a collection of discrete facts to be memorised. It appeared that practical work was often minimised for reasons of expediency (e.g. little or no assessment required), expense, or regulation (e.g. stipulating standards of laboratory provision before allowing access to examinations).

Allied to this problem was that of obtaining reliable information on curricula content and process. At most it was possible to obtain lists of topics that were covered. More detailed specifications are usually not published for circulation outside projects and are difficult to interpret as free standing documents. Previous work on science education in the formal sector suggests that detailed curriculum planning is the exception rather than the rule. Where it does take place dissemination and internalisation amongst the bulk of teachers may be very restricted (Lewin 1981). Curriculum process is inaccessible to the literature reviewer except where evaluative reports based on detailed fieldwork, including observation, have been undertaken on representative samples. These are very sparse and usually undertaken by representatives of funding agencies and/or project staff whose perspectives are not entirely disinterested.

Though some agricultural extension work undoubtedly could fit the initial brief it was decided to exclude it from the review with the exception of those projects which contained a community/rural development dimension. This was because most examples we came across were targeted on adults well beyond school leaving age who owned and farmed land, and were often as much information services as the providers of education and training.

The data bases and reports that we had access to biased our sample in terms of those with elements of public funding (including that from donor agencies), those that were thought at some stage successful, older rather than very recent projects and those where publicity seemed to be encouraged. We were aware of this from an early stage. Since this arose from the way in which information is disseminated we are only able to note this as a reservation.

Training associated with apprenticeship schemes in large organizations was not accorded prominence in this survey since it is characteristically formal (day release schemes etc), specific job orientated and generally targeted on relatively successful school leavers. Urban informal sector learning through forms of apprenticeship to small scale employers was identified as an area of interest. Apart from some well known general studies (King 1977, Hoppers 1984, McLaughlin 1979) and anecdotal evidence, literature from well founded empirical studies was not readily accessible - perhaps because the very nature of the activity is extremely diverse, sometimes illegal and often regarded officially as marginal and irrelevant.

Section 2

THE FEATURES OF DIFFERENT TYPES OF PROJECT

Thirty six projects were identified from twenty five countries. The selection of projects tried to include as many countries' experience as possible (particularly small countries), and examples of all the kinds of activity we came across. They cover a wide range of types of activity, the largest numbers being linked to community/rural development programmes and to training courses for specific vocational skills. In summary the projects identified are:

BANGLADESH

1. The Comilla Experiment: The Youth Clubs of Kotwali Thana.
2. The Paramedics of Savar.
3. The Bangladesh Rural Advancement Committee (BRAC); The Women's Programme

BELIZE

4. The Youth Development Centre

BOTSWANA

5. The Serowe Brigades

FIJI

6. The Yavubuli Rural Youth Movement
7. The Marist Training Centre, Tutu: The Comprehensive Course

GHANA

8. The People's Education Association: The Vocational Trades Approach
9. The Wayside Mechanics: Non-Formal Skill Acquisition

GUYANA

10. The Community High Schools
11. The Adult Education Association

INDIA

12. The Rural Development Society, Chingleput District

JAMAICA

13. Hanover Street Project

KENYA

14. The Village Polytechnics

LESOTHO

15. Lesotho Distance Teaching Centre

MALAWI

16. Malawi Correspondence College
17. Malawi Young Pioneers

MAURITIUS

18. Mauritius College of the Air

NEPAL

19. Education for Rural Transformation Programme

PAPUA NEW GUINEA

20. College of External Studies
21. Secondary Schools Community Extension Project

SIERRA LEONE

22. The Training of Voluntary Leaders for Rural Development

SINGAPORE

23. The Vocational and Industrial Training Boards
24. Joint Government-Industry Training Scheme

SOLOMON ISLANDS

25. St Dominic's Rural Training Centre, Kolombangara

SRI LANKA

26. Part Time Technical Education Units
27. Radio and Electronics Laboratory, Colombo

SWAZILAND

28. The Youth Training Centre

TANZANIA

29. Folk Development Colleges

TONGA

30. Te'ekiu Village Youth Organization

TRINIDAD AND TOBAGO

31. SERVOL - Education and Community Development Project

TUVALU

32. The Women's Programme
33. The Marine Training School

UGANDA

34. Kabwangu School Leavers Resettlement Project
35. Training For Unemployed Girls

ZIMBABWE

36. Inyanga Appropriate Technology Extension Project

Initially we thought it might be possible to classify the opportunities that we identified in a single typology of projects. Some fairly obvious categories suggested themselves - Distance Education, Vocational Training Schemes, Community Development Projects, Technical Training Institutes. It soon became clear that this was not feasible since most projects had several elements to them which ran across such categories. We have been able to identify some clustering of initiatives which is described below. We would hesitate to make strong arguments in favour of this grouping but see it more as a

device to begin to get a feel of the pattern of activities, rather than as offering an adequate basis for a theoretical analysis.

Community and Rural Development Projects

The first and largest cluster includes projects with a community and/or rural development emphasis. The primary purposes of these projects are not for specific skill training but are directed towards a wide range of social, political and economic initiatives intended to improve the living conditions of particular communities (e.g. Education for Rural Transformation, Nepal). Common concerns in these projects include enhancing:

- the physical infrastructure (roads, buildings, irrigation, marine defences)
- primary health care (nutrition, hygiene, child care, family planning)
- local traditional economic activity (agriculture, fishing, forestry)
- income earning opportunities (craft products, small scale industry)
- certified skill acquisition for employment purposes
- general levels of adult education and literacy.

All the projects selected claim to provide learning opportunities in science and technology which can contribute to these goals.

Physical infrastructure is being improved in many of the projects (e.g. the Comilla Experiment in Bangladesh, Yavubuli in Fiji, St Dominic's Rural Training Centre, Kolombangara, Solomon Islands). Development of improved health care is also a common component (e.g. in the Paramedics of Savar project in Bangladesh, the Women's Programme, Tuvalu). The generation of community leadership skills in association with practical competencies is a feature of several of the projects (e.g. Training Voluntary Leaders in Sierra Leone, St Dominic's Rural Training Centre, Kolombangara, Solomon Islands). A proportion of projects are centred around the establishment of youth organizations with a wide spread of activities in local communities (e.g. Te'ekiu Village Youth Organization, Tonga; the Yavubuli Rural Youth Movement, Fiji). Several initiatives were identified that seemed specifically orientated towards young school leavers to assist them in adjusting to the opportunities open to them (e.g. Kabwangu School Leavers Resettlement Project, Uganda, the Rural Development Society, Chingleput, India). One project was selected that had an explicit appropriate technology focus (the Inyanga Appropriate Technology Extension project) though there were elements of this in many others.

Initiatives which closely relate education to production are found in most of the projects. The best example is that of the Serowe Brigades in Botswana. SERVOL in Trinidad and Tobago engages participants in training courses in 'productive revenue generating work from the outset'. The Comprehensive Course at the Marist Training Centre, Tutu, Fiji, requires students to alternate five weeks at the centre with eight weeks applying what they have learnt in their villages. Many projects also have revenue generation as a major goal and learning takes place in relation to opportunities identified (e.g. pond fishery and poultry rearing in the Comilla Experiment, Bangladesh, pisciculture and sericulture in the Womens programme of the Bangladesh Rural Advancement Committee). SERVOL in Trinidad and Tobago awards trade certificates to

successful trainees though most projects left certificated training to other types of initiatives.

Technical and Vocational Training Systems

Opportunities provided through technical and vocational training systems form a second cluster of initiatives. For practical reasons these are usually associated with secondary or post secondary training institutions which provide a base for part time and non-formal education programmes (e.g. the Part Time Technical Education Units in Sri Lanka). Most often these projects are organized at the national level within a framework regulated by government and vary from those largely financed from the national budget, through those with mixed funding often involving a donor agency (e.g. the Marine Training School, Tuvalu, the Village Polytechnics in Kenya, the Hanover Street project in Jamaica) to those where the funding is generated from the client population. Local industry may also be levied or contribute voluntarily and may also complement or provide the training facilities available (as with the Vocational and Industrial Training Board and the Joint Government-Industry Training Scheme in Singapore). Small scale initiatives reported are in a minority largely as a result of the high cost of maintaining credible levels of workshop and laboratory facilities (for example the Radio and Electronics Laboratory in Sri Lanka manages to meet its running costs from maintenance and repair work and modest tuition fees but relies on external money for capital projects). Some of these training initiatives focus exclusively on courses for drop-outs and early school leavers (e.g. the Youth Development Centre in Belize). Others recruit at higher levels and some have moved from initial concerns with our target group to limit access largely to those completing secondary schooling (e.g. the Harambee Institutes of Technology in Kenya which have been excluded as a result of this). One example of informal apprenticeship skill acquisition (The Wayside Mechanics, Ghana) has been included and it seems that the Peoples Education Association of Ghana is also active in this area but we were unable to obtain much detail on this. By their nature these arrangements are not usually defined as 'projects' nor are they systematically reported. The study by Hoppers (1984) provides an illuminating analysis of apprenticeship training and employment in the informal sector in Lusaka, Zambia.

Distance Learning

Distance learning based projects are a third cluster. These typically use printed self study materials coupled with the use of mass media (usually radio) and local organisers/tutors, along with periodic workshop/'summer' school instruction periods in formal sector institutions. Many have been established in association with the International Extension College and a high proportion appear to offer courses which provide opportunities for school leavers to take or re-take school subjects through part time study. Some offer more vocationally oriented courses often linked to trade certificates where access to appropriate facilities becomes even more critical for the development of practical skills. Education and training is characteristically orientated towards certification relevant to modern sector employment and less frequently that in the urban informal sector.

The Mauritius College of the Air, The Malawi Correspondence College, the Lesotho Distance Teaching Centre and the College of External Studies in Papua New Guinea can be located in this cluster. So also might the Botswana Extension College (not described here) and many others listed in Young et al, (1980), if they include substantial science and technology courses.

Loosely related to this cluster are the Adult Education Association of Guyana's activities which seem largely to cater for academic science qualifications and national trade and technician qualifications. The Folk Development Colleges in Tanzania provide substantial opportunities on practically based courses for older students which include those in science and technology.

National Youth Service Schemes

A fourth cluster of initiatives are those related to national Youth Service Schemes. A number of countries operate these for young school leavers where they are given opportunities to acquire additional scientific and technological skills at a basic level. The schemes are usually voluntary which distinguishes them from conventional national service as found in some countries. Some seem akin to military training (the Malawi Young Pioneers experience a 'rigorous regime' designed to provide them with leadership and practical skills of use when they return to their villages) and others operate within a more conventional educational framework of Youth Training Centres (e.g. Swaziland). They usually have a strong rural development bias. The Seychelles National Youth Service scheme (not reviewed here) is a different kind of initiative intended to replace two years of secondary school with education allied to production and community development. Science and technology are taught formally within it and it is really a formal sector project.

In-School Initiatives

A fifth cluster of initiatives are in school and therefore marginal to this review. These are located in secondary schools or colleges and seek to involve those who otherwise would be out of school. They include projects orientated to the needs of young school leavers to acquire science based skills relevant to the kind of job opportunities open to them. Thus the Secondary School Community Extension Project in Papua New Guinea retains potential 'push-outs' in school and exposes them to a curriculum designed to integrate science learning with useful village level technology. The Community High Schools in Guyana try to diversify academic secondary curricula to include pre-vocational subjects and enhance retention rates. Many other countries have taken steps to increase curricular time allocated to subject matter directed towards aspects of local occupations (e.g. Sri Lanka and the 'Life Skills' programme (not reported here)). The DISCUS Review undertaken for the World Bank (Lillis and Hogan 1978) includes many examples of attempts to diversify secondary curricula. In school initiatives tend to be orientated towards generalisable skills to a greater extent than those associated with specific vocational and technical training and their scope goes beyond the initial brief for this study.

Section 3

ANALYSIS AND COMMENTARY

This review has generated a number of insights into the provision of science and technology opportunities for school leavers. These are discussed here under five main headings. These are Project Initiation; Trends in the Life Cycle of Projects; Provision for Women; Curricular Content and Processes; The Organization of Delivery. It was intended to attempt an analysis of costs associated with the delivery of educational inputs but this was abandoned due to the poor quality and ambiguity of the data available. In the absence of convincing evidence on outcomes it would in any case have been a fairly notional exercise.

Project Initiation

Few of the projects that we have examined can be said to have originated endogenously. It was exceptional for initiation to be the result of members of the target population collaboratively articulating needs which were subsequently met through voluntary or publicly supported programmes. Usually from the outset an aid agency (e.g. the case of the Marine Training School, Tuvalu), private organization (e.g. a church - the Village Polytechnics in Kenya were initiated by the National Christian Council), or a government official (the Secondary School Community Extension Project in Papua New Guinea) or politician (Malawi Young Pioneers) was involved in formulating needs on behalf of others and mechanisms to meet them. Charismatic individuals (often outsiders) appear in many projects as key agents for change (Serowe Brigades, Botswana; The Comilla Experiment, Bangladesh). This may be inevitable where needs cannot be articulated by client groups, except at the most simple and individually self interested levels, but it can precipitate a range of down stream problems. These are closely linked to the values held by such 'project entrepreneurs', and the qualities of expert and positional power that they hold. A directive from a prime minister to establish a distance learning programme to ministry officials used to administering the formal education system carries different consequences for need analysis and performance evaluation than do proposals emerging from a donor agency advisor or a local community leader.

Here we identify four sets of difficulties that arise from the cluster of activities that characterise the setting up of non-formal opportunities for development of scientific and technical skills. First it is common to find that accountability within projects lies with a variety of institutions and that accountability to the clients generally appears fairly low down the list. This is more true the greater the number of resource contributors and regulatory authorities. Initiatives of the kind we are concerned with overlap with the responsibilities of many government departments (e.g. some or all of; Education, Further Education, Technical/Vocational Education, Agriculture, Labour/Employment, Industry, Rural Development, Finance, Health, External Affairs). Project staff may also have to report to donor agencies, charitable foundations, missionary organizations, self help community leaders, traditional leaders. The views of all these on needs and on the nature of scientific and technological training will almost certainly diverge considerably. There is plenty of scope for confusion, conflict and unnecessary duplication. The more durable projects tend to

locate themselves with powerful sponsors whose ideology they come to share, or shift their emphases chameleon like to suit the known preferences of particular sponsors.

Second, response to demand for scientific and technical education and training opportunities tends to be separated into the dissemination of new knowledge derived from science, the acquisition and development of trade skills, and study for formal qualifications to gain access to modern sector jobs. In the first case the temptation is always strong for outside experts to determine what is needed and deliver it in the form of essentially factual learning (even, perhaps, when it is appropriate technology!). In the second case the value of certified trade skills lies partly in the access they provide to modern sector jobs. Exceptionally training offered is identified through market research; more often it is determined by the teachers available. It also tends to reflect formal sector provision which is typically monovalent in character despite the fact that the bulk of tradesmen require polyvalent skills in many areas if they are to depend on them for their livelihood. (See Report on Kenya and the Seychelles below). In the third case the motive for participation is most often of a kind that ensures the migration of the successful to urban labour markets. The unsuccessful may experience the double jeopardy of having failed repeatedly (and therefore lost self confidence) and of having spent considerable time following academic curricula largely irrelevant to their immediate needs.

Third the question of the intended relationship between existing delivery systems, both formal and informal, and new initiatives is generally evaded or left ambiguous. There is an intrinsic attraction of the new over the established. The reward and recognition associated with project 'ownership' by charismatic individuals may be seductive. Logic, however, dictates the need for careful assessment of the reasons why needs identified are not currently being met effectively. Commonly allegations of under performance are levelled at formal sector provision. Neglect of need is attributed to the peripheral status of marginalised communities whose lack of provision reflects their powerlessness. In either case setting up new projects does not necessarily overcome the original problems and may reduce pressure to take action concerning them. This raises complex political issues which are touched on later.

Fourth, we draw attention to two aspects of project initiation concerned with generating resources. In many of those we have looked at it has proved easier to generate recurrent finance from local resources than to support capital expenditure. The latter frequently comes from international organizations, if it is not provided by government, and if it has a foreign exchange component. The second feature of this set of issues is that such external support has to be generated in the context of changing trends in what it is, in a sense, fashionable for donor agencies to finance. This may create external pressures to change the project priorities to reflect those which are expedient in fund raising independent of changes in needs.

Trends in the Life Cycle of Projects

Most of the projects we have examined fall into one of two categories - those that are initially small scale initiatives and those that are national programmes intended to respond on a large scale to demand. The former appear the most risky in terms of subsequent durability and consolidation. Several of the small scale projects we have examined are apparently in difficulties (e.g. the Hanover Street project in Jamaica) and many seem to disappear, at least from the literature, without trace. Hoppers (1984) notes the frequency with which small scale non formal education projects turn over in Lusaka.

Small scale projects often depend heavily on the existence of charismatic individuals with the ability to inspire and motivate opinion leaders and often have an orientation towards the least privileged individuals and communities. They tend to reflect 'bottom up' models of the development process which incorporate strong elements of self help and sometimes imply radical challenges to existing power and authority structures. This is both their strength and their weakness. To those whom government neglects their ideology is attractive since it represents the only immediate prospect of materially changing the quality of their lives. This does not have to take place within a quasi revolutionary framework and may be seen as an incremental process that will increase the pressure on elected representatives to improve the distribution of opportunities. To those in power, the success of projects with these kind of overtones may easily be construed as threatening. Mobilization of marginalised communities is acceptable providing their concerns are parochial. When it starts to call into question the system that marginalises the community, political conflict is inevitable. Charismatic individuals may then become propelled into national politics often with a weak power base, and may be replaced as a result - particularly if they are seen as outsiders.

Other factors also impact on the life cycles of these types of projects. The aspirations of key individuals may take them out of projects as they move on to new pastures - the visionary may not be as effective at day to day administration and negotiation as at inspirational leadership. It is also the case that successful small scale projects are likely to attract much attention in their early days resulting in favourable press comment and glowing references from politicians eager to be associated with success stories. This is likely to stimulate demand for growth and replication at rates beyond the capacity of a fragile infrastructure to respond. Increasing demand for training courses inevitably creates pressure for access. The easiest response to this is to increase entry requirements to restrict numbers. Thus secondary completers may begin to replace an original target group of secondary drop outs (as with the Radio and Electronics Laboratory in Colombo, Sri Lanka). These are likely to bring with them demands for greater orientation to training for modern sector employment and the formalisation of courses so that they are more directly comparable with those in the formal system. They also may begin to compete for the same occupational niches as graduates from the formal system.

If this process occurs and carries with it substantial resource implications - and the call is on government to provide them - direct competition for funds with the formal system becomes an issue. Because of their target group and their peripherality, non-formal projects are

likely to lose out in such competition. Either this, or they become absorbed into the formal system with a consequent shift in orientation towards conventional training programmes. This can be seen in the case studies contained in e.g. Hoppers (1984) where Vocational Skill Training centres in Lusaka showed a clear tendency to become more formal in their training programmes. In this case 'formal features were preferred less out of a clear conception of the requirements in the labour market than out of traditional notions as to what "proper" training should look like'.

If the development of projects threatens an established domestic elite - either through revolutionary rhetoric and action or by diminishing the power of for example large landowners, the danger is either of termination or co-option. The latter occurs when control of the project shifts from its initiators to landowners or their retainers who make decisions in ways which will maintain their control of the local economy and regain influence over resources and land utilisation (e.g. this appears to have happened in part during the Comilla Experiment, Bangladesh). It is significant that in the Hoppers study, youths who end up in apprenticeships in small scale workshops in Lusaka are drawn from the poorest socio-economic backgrounds. The vocational skill training centres are monopolised by middle class youth who have exhausted other second chance avenues for advancement and who are predisposed to seek training leading to recognised certificates useful in gaining access to modern sector jobs. Bock and Papagiannis (1983), in their extensive review of non formal initiatives, also note the tendency for projects to become bureaucratized as they grow with a dilution of goals of self reliance and progressive community development resulting in co-option to support, rather than to challenge, the status quo. They argue that this process serves to 'reduce legitimate demands for more fundamental reforms that might threaten the still fragile emerging socio-economic order'.

These observations suggest a daunting paradox - success may be a precondition of failure, or at least of a significant shift in purposes to fairly modest and uncontentious goals similar to those of formal sector institutions. Such a proposition, however must recognise the profound contradictions that begin to emerge when growth and recognition force projects to address broader perspectives and satisfy a wider range of interest groups. The extent to which these can be accommodated, whilst continuing to offer genuinely alternative learning experiences, is an important question for policymakers.

National level initiatives seem more durable. They tend not to be so heavily dependent on charismatic individuals, to be more adequately resourced from the outset, and have the advantage of a professional bureaucracy to support them. The inertia of the latter is often enough to ensure the continuity of programmes though not necessarily their quality or success in reaching the original target groups identified. This kind of project is most often associated with 'top down' development strategies, with central initiation by the government on behalf of the community. They may be a response to manpower planning targets which cannot apparently be met at acceptable cost in any other way. Less happily they may be the result of political judgements to enlarge access to scientific and technological training in order to reduce excess social demand. In so doing they can provide a relief

valve for frustrated youth. The 'cooling out' function that they may serve is likely to be an important feature of some of these projects. This occurs when the aspirations of out of school youth are progressively eroded by channelling them into courses designed to lead to the lower rungs of the job market (Bock and Papagiannis 1983). Its dynamics also involve shifting the responsibility for failing to enter modern sector employment away from lack of opportunity on to the performance of individuals. 'Push outs' from the formal system who have participated and failed in second chance systems have more time to adjust unrealistic expectations. They are more likely to reach the conclusion that the task is beyond their capabilities than those excluded irrevocably from further education and training by failure in school examinations. Cutting young people off from opportunities invites dissent over the unfairness of selection mechanisms (some of which is entirely justified); offering the possibility of retrieval may reduce this.

National level projects tend also to be more formal in character. Thus the instruction provided in distance learning programmes often parallels that in the formal system (Mauritius College of the Air). Youth Service Schemes provide classroom based teaching. Size militates in favour of adopting formal models since it offers the tried and tested method of educating large cohorts, but it under emphasises differences in learners' needs and in environmental circumstance. With it may also come disciplinary specialisation despite the fact that useful scientific and technological application to real problems is almost always interdisciplinary. The adaptability of such systems tends to be low in responding to a wide range of different types of need particularly where infrastructure development to support education and training on the ground is lacking. Relatively few national level projects seem to be based on any detailed study of labour markets and analysis of job skills associated with shortfalls. The results are often compromised by this. Thus outputs may exceed the growth in demand for employee skills in a limited number of specific occupations. There may be few checks on enrolments to reflect this, or changes in the range of opportunities offered to increase self employment opportunities. If growth in jobs is less than growth in outputs there is an element of the zero sum game about the exercise. Investing more resources in training of this kind may merely redistribute the lucky few who obtain jobs and increase the aggregate cost of each trained worker.

Projects for Women

As far as we are aware women are a tiny minority of the participants in scientific and technological education and training systems beyond compulsory education in all the countries we selected case studies from. The reasons for this are many and well known and include cultural norms; employers preferences (the great majority of whom are, of course, men); early marriage and serial child bearing; the 'double day' of agricultural work and family care; the cognitive 'difficulty' associated with science, the gender association of technology and engineering with males. Where inputs are directed towards women they characteristically focus on domestic science (cooking, sewing, homecraft as is typical of the more formal projects), family welfare (nutrition, disease, sanitation, family planning, hygiene, clean water - The Paramedics of Savar, Bangladesh, The Women's Programme, Tuvalu), agricultural

practice (concentrating on those parts of the agricultural cycle that women are responsible for - The Training of Voluntary Leaders, Sierra Leone), income generating self employment and craft based manufacturing (pottery, weaving, textile printing). Occasionally projects are directed towards non-craft based employment (Bangladesh Rural Advancement Committee, Hanover Street, Jamaica). All of these activities have scientific and technological aspects though it is difficult to ascertain at what level inputs are provided. Much seems to be at the level of dissemination of information about good practice and the acquisition of specific skills of a repetitive nature.

If the experience in Zambia with vocational skill training centres is typical, participation of women is minimal in science and technology based courses. Nine subject areas were examined by Hoppers (1984). Sewing/homecraft, carpentry, agriculture, handymen, electrical, upholstery, tinsmithing, shop assistant, nursery school assistant. Of total enrolment of 355 females 317 were following sewing/homecraft, 18 shop assistant, 19 nursery school assistants and only 1 in carpentry.

Since the expectation in many societies is of early marriage and of fairly well defined roles within the family which consume very substantial amounts of time the pattern of provision is not surprising. Few of the projects we examined identified as a separate group young unmarried school leavers. Though they may have access in principle to most of the initiatives described every indication is that significant representation of young women was the exception rather than the rule. Where technical training orientated towards production for the market was identified it was for older women to acquire fabrication skills (Hanover Street, Jamaica). In the open market for jobs project graduates experienced great difficulty in competing with men in an area traditionally monopolised by them. There was some indication that this kind of problem might be avoided by concentrating on new economic activity (as in the case of sericulture in the Bangladesh Rural Advancement Committee) where there was no existing male labour force to compete with.

The problems of science and technology education for women out of school are closely linked to their experiences in the formal sector and the social role expectations that surround them. It is worth noting in passing that provision seems more equitably provided in most formal systems where, by and large, girls have similar opportunities in principle, if not in practice. Informal provision of opportunities appears stacked heavily against girls who wish to acquire science and technology skills. Apprenticeship relationships are rarely thought suitable for them in most occupations; training places are preferentially given to unemployed boys unless they fall into the homecraft subjects. The needs for increased participation of young women cannot be articulated generally as if there was a single model of effective and equitable participation. It is clear, however, that a valuable human resource is grossly under utilised in many countries to the detriment of both women and the community as a whole.

Curricula Content and Process

Detailed information on curricula content in the projects that we examined was not available to us and it was therefore not possible to

undertake any meaningful materials analysis. Statements of goals and objectives tended to be made at the most general level and subject areas were identified with brief descriptions. Where we found course outlines these were often disassociated from information about their take-up and use (for example the Self Learning and Instructional Modules in Health Education, Unesco 1982, contained no reference to where or how they were being used and were therefore excluded). Neither were we able to locate assessment instruments except where these were normal school examinations or standard trade tests. Programmes which use school examinations will almost certainly suffer from the cognitive bias towards the recall of information in science typical of many examining systems (See ILO/JASPA 1981). The use of common trade tests (for example those based on City and Guilds) implies similar learning objectives to those in formal sector institutions. This carries the danger of over stressing the kind of achievement that can be assessed through written papers at the expense of practical skills.

It may be useful to think in terms of a kind of hierarchy of learning experiences in science and technology education that distinguishes four types of level. First, reception learning that involves the acquisition of information at a factual level. Second, transformation skills that allow generalisable concepts and skills to be internalised and reproduced. Third, application capability where such concepts can be used to solve problems which are new to the learner. Fourth, synthetic and analytic skills which enable learners to conceptualise their own problems and design creative solutions to them. Motor skills and those of critical observation are of importance at all levels.

The target group that we have concentrated on is young school leavers who have dropped out or been pushed out of the formal system. Broadly speaking these are the less intellectually able students, though any such generalisation must be treated with great caution - many selection instruments used are not very reliable; attrition rates are affected by a wide range of factors unrelated to ability. Cognitive development amongst this group is likely to lag behind that of their peers in school. It is probable that they will work most effectively in concrete operational situations though some may be capable of much more sophisticated and abstract learning. It also seems likely that differences in performance between them and more able students are more adequately explained by variations in the length of time that they take to acquire new skills than in any innate characteristics of intellectual ability. Science education above the most elementary levels is cognitively demanding and requires skills of generalisation and abstract reasoning. It might be expected that out of school provision for this group would be heavily loaded towards the lower reaches of the learning hierarchy. Similarly technical education might most appropriately concentrate on the development of specific motor skills and the following of systematic procedures using linear algorithms which can be used to solve standard types of problems. As far as we can tell this is in fact the case. In passing we note also that the higher reaches of the hierarchy may also be unfamiliar and difficult for the majority of those who tutor in non formal programmes, who are unlikely to have had a high level of education themselves.

We do not wish to overstate the implications of the argument above. However we find it significant that there is little discussion in the

project literature of the issues concerned with what kind of science and technology education is most appropriate for the target group. Either it is assumed that conventional academic school curricula essentially define particular subjects. Or rhetorical statements are advanced concerning the value of practical skills, the importance of relevance at best vaguely defined, and the need for productive skills which are not clearly linked to the development of intellectual processes.

Curricula subject orientation in the projects seems to fall into four main areas. First there are those projects which simply offer educational opportunities in the traditional school subjects - physics, chemistry, biology, general science. There appears to be no reason to assume that these are treated in significantly different ways to the formal sector except in relation to practical work (there is generally less opportunity for it and resources to support it) and delivery systems, where correspondence courses and mass media are used. The goals of participation seem dominated by the desire of individuals to obtain marketable qualifications.

Second, agricultural science related to cultivation, livestock, food storage etc is a component of many projects. Fishing and forestry may be included depending on local economic activity. Though some of this may take place in formal situations (i.e. classroom based), more typically it occurs in the context of local level development programmes which involve students in practical work and productive labour. Goals here are usually concerned with improving traditional practices and making use of new cultivation methods, varieties of crops and reducing wastage of stored food.

Third, health science provision is widespread and typically targeted on households. Nutrition, sanitation, hygiene, child care, family planning, clean water are typical topics. These are usually associated with the development of primary health care systems that depend on paramedical staff trained within the projects. The main goals are usually concerned with distributing information to reduce morbidity and disease.

Fourth, production-related education and training which covers trade skills of traditional (e.g. carpentry, weaving, dyeing, masonry, brick making) and non traditional (e.g. electricians, mechanics, welders) kinds. It may also include training to support new kinds of economic activity (e.g. sericulture, pisciculture, soap manufacture, production of artefacts for a tourist market). The goals here include revenue and employment generation (for individuals, communities, and to finance project activity) and tend to focus down on that range of skills necessary for the production of a particular commodity or the pursuit of a single trade.

Technological skills are most commonly developed in programmes focussed on the second and fourth areas, science education is arguably a larger part of those in the first and third.

Curriculum process, as we have remarked, is not accessible to us. Learning transactions can only be studied in the field. Statements of intent tend to be fairly stereotyped - in science guided discovery, problem solving, hypothesis testing, data interpretation, student

centred learning and a practical orientation are recurrent features of programme rhetoric. Our experience leads us to doubt the extent to which they are reflected in practice.

The Organization of Delivery Systems

The main channels which are used to deliver science and technology education and training in the projects are as follows:

- Existing formal sector educational institutions (schools, vocational and technical training centres, colleges, teacher resource centres)
- Community centres, clinics, agricultural extension facilities
- Mass media (radio, newspapers, book publishers)
- Private profit and non-profit institutions (second chance private schools, commercial colleges, youth organizations, women's organizations, missionary schools)
- Peripatetic consultants or experts
- Community based para professional staff (e.g. para-medics, community development workers)
- Large scale employers with in house on the job training capacity
- Small scale employers with informal apprenticeship schemes

This provides a bewildering range of possibilities, every project tending to use a combination of several these. It is evident that the motives of those involved in these different types of delivery systems vary widely. So also does the capacity of the systems to reach particular target audiences. Eight general observations arise from this study concerning delivery systems.

First the need for well founded laboratory and workshop facilities for science and technology implies the use of existing facilities or the creation of new ones. At the lowest level useful work can be undertaken without these. Simple experiments can be conducted using very little equipment, many mechanical repairs can be effected using the well tried 'hammer and screwdriver' approach. The limitations on what can be achieved are considerable under these conditions. If science and technology education is to consist of more than information transmission and simple mechanical skills it requires tools, instruments, a controlled environment with basic services and secure storage, and collections of printed material in accessible form. These may be at a very basic level but they are essential. Not all the delivery systems can provide these and this must affect choices that are made.

Second using existing facilities has the attraction of being cost effective but tends to have a number of disadvantages. The geographical location of them may not correlate with the target group - secondary schools and colleges are often in towns. The institutions themselves may resist the use of scarce and valued resources by the wider community preferring to reserve them for the chosen few who have been selected for

formal education and training. The times when the resources are not being used may restrict activity to evenings when transport may become difficult in rural areas and when many women are unable to attend for domestic reasons. Sufficiently responsible and well trained tutors may be difficult to employ without placing unreasonable workloads on the staff of the institution. If they are drawn from formal sector institutions what they offer is likely to closely resemble that which is provided in formal courses which may not be suited to the needs of different target groups.

Third the costs of delivery to the consumer must be held as low as possible for fairly obvious reasons. These need to take account of transport costs, material costs (written material, wood, scrap metal, radios etc), and opportunity costs. The motivation of many school leavers is fragile and cost disincentives may put off all but the most committed. Income from production associated with training may be used to offset direct costs but it appears rarely sufficient to cover them.

Fourth the use of printed materials presupposes literacy. In the case of science and technology it also presupposes some knowledge of specialised vocabulary. Many development projects have literacy as a major focus and there is undoubtedly scope for including science and technology dimensions in these.

Fifth private sector activity ranges from that undertaken from a disinterested perspective to that which cynically capitalises on unrealistic aspirations. Market forces are generally not sufficient regulators of quality amongst unsophisticated consumers.

Sixth anecdotal evidence abounds of experts and consultants who were unfamiliar with project environments and whose advice was taken only to prove misguided. Careful identification of appropriate individuals and expertise is of paramount importance.

Seventh large employers can offer high quality training and it is in their interests to do so providing they are able to benefit from the improved productivity and quality that results. They are usually modern sector corporations and often associated with multi-national companies. Much training is job and skill specific below the technician level. Technician level training increasingly recruits from those who complete secondary education.

Eighth small employers may offer a wide range of training experiences in the informal sector. There are three immediate types of difficulty with using this as a delivery system. Training is ad hoc and informal and may be effective or merely a form of minimising labour costs for the employer. The informal sector may be very limited away from major centres of population. Scarce and lucrative skills over which a family or group has had a historical monopoly are unlikely to be willingly disclosed to potential competitors.

Delivery systems linked to production warrant special comment. It is attractive pedagogically to link the development of skills directly to production. It also offers the prospect of funding a substantial proportion of costs from the fruits of participants labour. The practical difficulties are considerable and seem to revolve around four

related issues; the choice of commodity and market, protectionism and guaranteed markets, quality control and productivity, and remuneration.

Production is usually limited to artefacts that can be produced with relatively simple technology or the capital cost of equipment becomes exorbitant. This limits opportunities for import substitution of mass produced goods produced using sophisticated techniques, materials and quality control. Competing in the open market with local producers invites conflict since it may undermine the livelihoods of the groups which non formal programmes seek to develop. In small markets significant quantities of e.g. furniture or vegetables may cause prices to tumble. If projects are rurally based the scope for production of perishable commodities is limited and the transport costs may be high.

Second, where some kind of protected market is contemplated this is likely to provoke argument. If the protection is against imports and applies to all local producers the short term cost will fall on consumers. If it is tied to, say, government contracts for school furniture, it monopolises a source of revenue usually available for tender openly.

Third, though the labour component of costs may be smaller than on the open market, quality control may be problematic (as apparently in the chairs produced by vocational training skill centres in Zambia, Hoppers (1984)). Productivity will necessarily be low (since the organisation is concerned with educational as well as production goals) and this may offset the advantages of low labour costs.

Fourth, remuneration of students is problematic. If they are paid little they may drain away to the informal sector where they can earn more for the same work. They may come to see themselves as exploited in comparison with peers in the outside labour market. If they are rewarded similarly to each other productivity may suffer, if they are rewarded differentially a sense of community and self help may be replaced by a sense of help oneself.

CONCLUDING REMARKS

We have identified thirty six projects in twenty five countries which provide science and technology learning opportunities to out of school youth. In reaching conclusions about the disparate range of experience considerable caution must be exercised. It is not sensible to talk of non formal education initiatives, and make authoritative statements about them, as if they were part of a homogeneous phenomenon. Neither, it seems to us, is it desirable to look naively for 'success' stories in the hope of replicating them. Success is an elusive concept and it behoves those who identify it to specify carefully from whose point of view and on what criteria they are making such evaluations. We take seriously Ahmed and Coombs (1975) observation that 'this propensity (to embark on wholesale copying of projects in other countries) emerged as one of the major causes of poor effectiveness in many countries'.

From the case studies here we draw the following general conclusions. They do not and cannot attempt to resolve the conflicts and paradoxes raised by the project experiences. These can only be explored through analysis of specific projects in defined contexts where personalities, political realities, culture, and the characteristics of production and employment must accompany understanding of organizational, pedagogical, and motivational features of delivery systems.

- Independent learning in science and technology is a very limited phenomenon assuming it implies the acquisition of cognitive skills above the level of reception learning. (See Introduction, Curricula Content and Process.)

- Opportunities especially for women are extremely limited and, where they exist, are usually restricted to a narrow range of stereotyped fields. Where participation is open to boys and girls the latter tend to remain within these stereotyped fields. (See Projects For Women)

Many non formal initiatives with science and technology dimensions gravitate towards replicating formal sector activity. The more formal they become the more likely they are to service clients drawn from more favoured home backgrounds and become orientated towards modern sector employment. (See Trends in the Life Cycle of Projects).

The answer to the question 'what kind of science and technology education is appropriate to the target group identified?' is rarely answered in any depth or on the basis of systematic investigation. Indeed, it is often not posed, at least in written accounts of projects. (See Project Initiation, Curricula Content and Process).

Independent and balanced project evaluations are rarely published. The literature abounds with exhortatory and inspirational accounts of projects initiation and development. These are difficult to reconcile with despondent catalogues of failure, sometimes relating to the same projects at later dates. (See Project Initiation, Curricula Content and Process).

Many initiatives do not consider relationships between individual needs, community needs and national needs in complementary ways. Latent conflicts may emerge in attempts to reconcile these. (See Project Initiation, Trends in the Life Cycle of Projects).

Official attitudes to non formal education are long on moral support and short on active endowment. The overwhelming pressures in the formal sector often marginalises provision for school leavers. Equivalence is recognised and incorporated, alternative schemes are often misunderstood and ignored. (See Trends in the Life Cycle of Projects, The Organization of Delivery Systems).

Allegations are often levelled at formal systems for creating, or at least contributing substantially to, the problems the initiatives we have looked at seek to solve. The cost effectiveness of acting to improve formal sector quality should form part of the considerations involved in initiating new non formal projects if they share similar goals. (See Project Initiation, Trends in the Life Cycle of Projects).

The tenor of this review has not been an optimistic one. This is not a reflection on the benefits to individuals, communities and national development that appear to flow from some of the projects we have reviewed. In the short term, providing opportunities for education and training to those who would otherwise have none must appeal to anyone with a sense of social justice. The satisfaction that clients may obtain and the opportunities to resurrect self-confidence dented by 'failure' in school are not to be dismissed lightly. But neither are they a panacea. They seem unlikely to have more than marginal impact on total employment in most countries; the quality of opportunities is largely uncontrolled; participants may be misled by well intentioned but poorly designed projects; training may become a substitute for productive employment at reasonable rates of reward. But these are not fashionable conclusions to reach.

We have avoided attempts at political analysis of projects in any depth but conclude, like many other authors, that the root of the problems that out of school initiatives in science and technology seek to solve often lies outside the domain of effective delivery systems for learning. School systems are social selection mechanisms par excellence in most developing countries. Their operation reflects and confirms the distribution of power and rewards within the societies of which they are part. Segmented labour markets based on controlled access through levels of formal qualification complement and reinforce this. In a well known observation Bernstein notes that 'How a society selects, classifies, distributes, transmits and evaluates the educational knowledge that it considers public reflects both the distribution of power and the principles of social control' (Bernstein 1971). This is the most powerful explanation of why 'second chance' pathways will generally remain marginalised with the poorest resource bases and teaching staff. Good results can be achieved, individuals can become gainfully employed and improve the qualities of their lives, but they do so in the interstices of stratified societies which have long found it in their interest to sponsor a controlled amount of upward mobility.

Keith Lewin, September 1985.

EDUCATION AND PRODUCTIVE WORK LINKAGES
IN THE FORMAL AND NON-FORMAL EDUCATIONAL SYSTEMS
OF THE COMMONWEALTH CARIBBEAN

University of the West Indies

Zellynne D Jennings
October 1985

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INTRODUCTION

This study has its origins in the discussions, decisions and recommendations of the Ninth Conference of Commonwealth Education Ministers in 1984 and the 1984 Commonwealth Youth Affairs Council. Education and Youth Unemployment was one of the major topics discussed by the Education Ministers who urged that education was needed that would endow young people with a capacity to respond flexibly to changing patterns of work. The Education Conference report notes that "the creation of production units within schools; and the integration of work experience with formal education" were among "a number of different ways of relating schools more closely to the world of work in various Commonwealth countries" but that further study should be undertaken on such experiments and innovations (paras 2, 5-2. 6, p 35). In addition, the following recommendations of one of the working groups were adopted by the Conference:

- C.1 A study should be made, with reference to prevocational and vocational education of different approaches to the provision of work experience in schools.
- C.2 An enquiry should be made into the particular needs for vocational and prevocational education for girls which would open wider opportunities to them and for strategies to meet these needs. (p 35)

This study seeks to address these joint concerns with particular reference to experience in the Commonwealth Caribbean of programmes general referred to as linking education with productive work.

The Commonwealth Youth Affairs council also discussed Youth Unemployment. They decided that: "The Secretariat should collect from governments details of current government policies and programmes which are designed to tailor education and training more effectively to the employment needs of young people" (p 169). They also emphasized the importance of drawing on the experience of the Education Ministers' meeting. Thus this study was mounted through the mechanisms of the Commonwealth Secretariat Human Resource Development Group.

Aims

The study has the following main aims:

- i) To present an overview of relevant education with productive work (EPW) programmes in the formal and non-formal education system of the Commonwealth Caribbean which produce either a physical product or a service.
- ii) To point up the rational of EPW programmes and their success or failure as perceived by those in charge of the programmes.
- iii) To ascertain the extent to which these EPW programmes provide for the particular needs of girls for vocational and prevocational education.

- iv) To identify the role of non-governmental organisation and international aid agencies in supporting EPW programmes in the formal and non-formal education system of the Commonwealth Caribbean.

Definition of Main Terms

Education with productive work: arrangements whereby a socially and economically meaningful component of education or training and one of production have been integrated within the same institutional setting (CESO 1985 p.6) or through the cooperative effort of different institutions.

Production: the making of a product or provision of a service which is either marketable or usable within the institutional setting.

Prevocational education: studies undertaken in the school system designed as preparation preparation for further studies in vocational education/training institutions.

Non-formal education: any organised educational activity outside the established formal system - whether operating separately or as an important feature of some broader activity - that is intended to serve identifiable learning clienteles and learning objectives.

Through-Put Training: training within a separate institution whereby successive cohorts of youth move through a standard programme at the end of which they find their own employment.

Through-Put Training with Field practice: as above, but the training is complemented by a work-experience component that takes place in industry or some business enterprise.

Through-Put Training with Settlement: as above, but the programme organisers assist trainees to secure employment after the training is completed.

Semi-stayput Training: a form of employment-based training wherein youth develop relevant skills as apprentices, in real work situations.

Stay-out Training: training in productive situations which youths have set up for themselves and material inputs etc. are provided or mediated by an outside agency to the extent required by the production units (Hoppers 1985).

Methodology: Limitations

"Educational innovations are almost never evaluated on a systematic basis" (Miles 1964), thus resulting in many promising ones being abandoned even before they have had a chance to take root. This is clearly the major difficulty encountered in conducting this investigation. With very few exceptions, the EPW programmes referred to in this study have not been subjected to a systematic evaluation of the kind that gives insights on the processes involved and the interactions that take place between participants. There is also a dearth of information on the learning objectives achieved by

youths involved in these programmes as well as on how the programme itself has impacted on society.

Data for this study was drawn from eight case studies giving an overview of EPW programmes in the Commonwealth Caribbean which were commissioned by the Caribbean Network of Educational Innovation for Development (CARNEID). These studies were consulted at CARNEID's base in Barbados during July 1985. Supplementary information was obtained through interviews with Chief/Deputy Education officers, Heads of Planning Units in Ministries of Education in Jamaica, Trinidad & Tobago, Barbados and Guyana. Published research as well as unpublished dissertations done at the University of the West Indies were also consulted. Unconventional sources were also tapped. For example, contact established with top officials in government and heads of research institutes in the non-formal sector enabled access to budget speeches, unpublished addresses by Ministers of Government, reports, policy statements etc.

Though by no means exhaustive, and despite its limitations it is hoped that what emerges from this study will throw further light on the relative effectiveness of attempts to link education with productive work in the Commonwealth Caribbean.

BACKGROUND TO COMMONWEALTH CARIBBEAN EDUCATIONAL SYSTEMS

Jamaica and Trinidad and Tobago are the most populous of the Commonwealth Caribbean (CC) territories, Jamaica being the more so, with a population in excess of two million. The variation in the size of territories we are concerned with is evident from the fact that Guyana, the largest, has an area of 83,000 sq. mls. (but a population of less than three quarter million), St Vincent 133 sq. mls.), Grenada (120 sq. mls.), Antigua (108 sq. mls.), St Kitts (68 sq. mls.) and Montserrat (39 sq. mls.) Although amongst the CC territories, there are differences of a physical, economic, cultural, religious and social nature, the fact that they have all had continuous political and economic ties with Britain has left the mark of the British on their educational system. Table 1 gives examples of types of institutions at the secondary level in selected territories which have programmes geared to preparing the young for the world of work. Some territories provide prevocational training in the secondary departments of their primary schools (e.g. Guyana and Montserrat). All the territories have secondary schools which approximate closely to the British grammar school (e.g. Jamaica's Secondary High and Montserrat Secondary) pursuing an academic curriculum designed for entry into Colleges or Universities or into the more prestigious occupations in the society. Guyana is somewhat exceptional in that there is a stronger emphasis on prevocational training in their general Multilateral Schools as part of a global philosophy of applying the polytechnic principle of general education as a socially necessary element inherent in all socialist pedagogies. Access to the middle-upper class oriented grammar-type schools is by selection through the Common entrance Examination (CEE) normally taken at age 11+. In Jamaica, for example, those children who are not selected by CEE proceed to the non-selective New Secondary schools. Prior to 1974, most of these schools were in fact Junior Secondary schools, not unlike those in other territories (see Table 1) offering a three year programmes in grades 7-9 (age 12-14+) which was, generally speaking, a watered-down academic curriculum. With the addition of grades 10-11 in 1975-6, these schools were converted to New Secondary Schools which offer a practical-vocationally-oriented curriculum

including a work experience component geared to preparing the young for the world of work (Jennings-Wray et al 1982). Trinidad and Tobago's Senior Secondary Comprehensive Schools (SSCS) and Guyana's Community High Schools serve similar purposes although in the latter there is more of an emphasis on students' participation in self-help projects as well as in activities that are income-generating for their institutions. These schools also promote involvement with community schemes which identify job opportunities in the areas where the students live. The SSCS in Trinidad and Tobago offer a programme divided into the academic, pre-technical and specialized craft. The pre-technical option is designed to prepare students for Technical Schools and eventually for positions of technicians in business and industry while the specialized craft option is intended for students who will join the work force as apprentices immediately on leaving school.

In addition to curricular offerings, different types of certification further segregate students who go to selective High Schools from those who enter non-selective schools. In Jamaica, whereas High School students are prepared for GCE 'O' and 'A' levels, or the Caribbean Examinations Council Secondary Education Certificate (CXCSEC) New Secondary School students, for the most part, are prepared for local examinations such as the Jamaica School Certificate and the Secondary School Certificate. Graduates of Guyana's Comprehensive High Schools have passes in the Secondary Schools Proficiency Examination. With this certification, they have to compete on the job market with holders of GCEs and CXCSEC.

Non-formal education programmes have been developed to varying degrees of sophistication in the Commonwealth Caribbean. Jamaica offers programmes which vary from youth-employment oriented, on-the job training, to life-long oriented programmes designed to develop knowledge, understanding and skills that transcend the world of work and enrich the individual's life experiences. Whereas in Jamaica, these programmes are diffuse and tend to duplicate each other, in Trinidad and Tobago a National Training Board (NTB) has been established to coordinate all craft and technical education and training programmes. In contrast, however, there is the situation in Montserrat where "non-formal skills-oriented training areas have not yet been identified, although there is a demand for such training" (Unesco 1982b p.x).

Appendices I and II give an indication of the contrasts in the formal educational systems of Commonwealth Caribbean territories.

CHAPTER ONE

AIMS AND OBJECTIVES OF EPW PROGRAMMES IN THE COMMONWEALTH CARIBBEAN

Attempts through education to prepare the young more effectively for the world of work are by no means new in the Caribbean. As early as 1847, the Colonial Office despatched circulars which suggested schemes for industrial and normal schools in the colonies. In one such circular dated 26 January 1847, the following idea was expressed:

an improved agriculture is required in certain of the colonies to replace the system of exhausting the virgin soils ... The education of the coloured races would not therefore be complete for the children of small farmers unless it included this object (Gordon 1962 p 58).

Earlier, in the Despatch covering Blue Book of 1844, dated May 1845, Lord Elgin, Governor of Jamaica, encouraged the introduction of industrial education:

Education seems at one time to have been prized as the means of enabling the child of the labourer to emancipate himself from the pursuits in which his parent has been engaged ... a more healthy impulse may perhaps be given in the same direction by the introduction of a course of instruction which promises both to connect the vocation of the husbandman with subjects of intellectual interest and to render his labour more valuable to himself and his employer. (Gordon *ibid.* p 59)

Over the years, however, attempts to vocationalize education in the Caribbean has met with limited success on account of parental resistance, the stigma attached to manual work and the persistence of an ideology that valued education for social mobility - an objective which, in the eyes of many, could only be attained through the study of academic curricula in elite schools.

In the wake of mounting social and economic problems, however, the dominance of academic curricula in schools has come under strong criticisms on the grounds of their irrelevance to the developmental needs of developing countries. A former Prime Minister of Jamaica, for example, said "The Jamaican educational system does not reflect a realistic balance between the needs of economic development and the actual training that is provided. The system offers courses that reflect the social prejudices which we have inherited from the past and bear little relationship to the kind of economy which we must seek to build. In the past, the economy was seen as a place which provided two alternatives. Either one belonged to the great majority who could not escape from the world of manual labour; or one belonged to the minority who enjoyed a privileged status through professional training or as a result of a minor excursion into the lower reaches of a classical education ... Clearly what is needed is the recognition that the manpower needs of a modern economy are radically different from those of a colonial economy. If we are, on the one hand, to provide for ourselves the skills to build such an economy, and, on the other, to train a population that can find employment and economic satisfaction we must begin with a radical restructuring of the training content of the system ..." (Manley 1974 p. 141-2)

What Manley has said of Jamaica, many other Caribbean leaders have echoed with respect to their own territories. A former Minister of Education in Guyana, at the 98th Annual Conference of the Guyana Teachers Association in 1982 stated:

"We need ... to establish some more appropriate curricula at all levels of education in which more productive activities must be incorporated ... The concept of 'education and production' needs to be explained, defended and promoted" (Ministry of Education, Planning & Research Unit, Guyana, 1985 p. 3)

Particularly since the 1960's, then, in order to redress the imbalances in the work force which academic curricula were said to have created, more concerted efforts have been made to forge stronger links between education and the world of work. These efforts have included attempts to offset the more abstract and theoretical nature of academic subjects by focussing more on the teaching of what can be applied in the practical world or by generating the content of schools' curricula from the practical problems that need to be solved in the community.

The early 1970's to the decade of the 1980's has witnessed increased attempts by various Caribbean territories to forge education - productive work linkages in the formal educational system. In the proposals for restructuring the education system of St Kitts/Nevis - Anguilla, for example, clearly stated is the objective that "work to be fully integrated, into the system as an important part of the curriculum (Ministry of Education, Health & Social Affairs 1976, p 1) and the requirement that "each teacher and student (is) to take part in agriculture at least once per week - theory, actual production, marketing, etc." (ibid p. 4).

In Antigua, when the Labour Government was returned to power in 1976, it undertook in its manifesto to ensure that farming is taught in all schools including the curriculum of the Technical College. Furthermore, in the meeting of Education Ministers held in St Lucia in 1980 to consider national plans to promote the objectives of the Unesco sponsored Major Project in Education in Latin America and the Caribbean, among the major objectives proposed for Antigua and Barbuda was that of linking education with productive activity through an expansion and upgrading of technical/vocational offerings in schools' curricula as well as through the provision of work-oriented skills training for Antiguan and Barbudan youths (Knowles 1985). In the early 1970's the government of Barbados was guided by the recommendation of experts commissioned to examine the island's needs for technical and vocational training and to suggest ways in which the education system could be made more relevant to the current situation. Following the publication of the report by Oxtoby (1974), greater provisions were made for prevocational and technical education at both the secondary and tertiary levels. In 1980, for example, a National Training Board was established with wide powers to promote and coordinate training in all activities of industry and commerce and to advise appropriate Ministers on all aspects of training and apprenticeships. In Barbados, the Ministry of Education is indeed committed to the idea of integrating work experience into the education system. Guidelines are now being prepared for a policy with regard to education and production in the school system above the primary level (Barnett 1983).

The Jamaican government in the 1970's was bent on emphasizing education and productive work. This is evident from the Five Year Education Plan (1978-83), for example:

To achieve the necessary attitudinal changes special efforts must be made to redress some of the imbalance chronic in the educational offerings. Thus, productive work will be given emphasis so that the school can be seen to be a functioning economic unit, with each student having a role in the productive process ... (p 48)

Thus, one of the objectives of five years of secondary schooling is identified as "developing and implementing a school production programme with accent on economic production and cooperative activities" (ibid p 69). Emphasis was put on agricultural production but programmes in Home Economics, Industrial Arts, Art and Crafts and Business Education were also included.

The thrust in education in Belize under the Peoples' United Party was expressed thus by the Hon. Said Musa, Minister of Education & Sports in his address at the opening of the Annual Conference of Education Officers held in Belize City, February 1980:

"Education in the new society must inspire our children with the will and the capacity to fight for the country's freedom, dignity and independence. The Belizean child must be given an education which will promote his history and culture, and enable him on the basis of equal opportunity to develop his abilities, his individual judgement and his sense of moral and social responsibility. In order to accomplish this, education must effectively integrate the world of study with the world of work ..."

In terms of what these linkages between education and production sought to achieve, three main categories of objectives can be identified: namely, pedagogical, social and economic.

Pedagogical Objectives

With reference to Jamaica's Five Year Education Plan (1978-83) a main objective of including productive work as an integral activity of the school system is stated thus:

To maintain a balance between academic and practical skills in students' growth and development (Ministry of Education, Jamaica 1977).

Maurice Bishop in an address to teachers at the opening of a national training seminar held in Grenada in January 1980, maintained:

Education and production are inextricably linked and in fact productive work is the only real foundation of true knowledge.

The Report of the Paulo Freire workshop on Work-Study which took place in the Curriculum Development unit in Grenada in February 1980, gives a number of pedagogical objectives. Among them are that of "making the learning process more practical by providing more and more practical application to theory", "providing relevant knowledge and skills to improve self and community", to equip people to obtain, understand and use scientific knowledge in

production", and to awaken dormant potential to bring out greater creativity in people" (Brizan 1983). In Dominica, attempts to link education with productive activities is based on an ideology that sees the purpose of education as not just that of preparation for examinations but as preparation "for meaningful participation in the development of the country as well as one's personal development" (Alexander 1984 p 4).

Social Objectives

Removing the rigid distinction between types of education, changing attitudes towards manual work, and developing more cooperative attitudes amongst people, are frequently stated as objectives of EPW programmes in the Commonwealth Caribbean. In the mid-1970's the Prime Minister of Jamaica stressed the need to

consciously train young people to accept the spirit of social cooperation as the foundation of national success and achievement (Manley 1974 p 145).

He was critical of attitudes towards work of the great majority of the Jamaican people "that reflected the misery of their historical experience. Instead of work being seen as the means by which a man expresses the creativity in himself while he earns his daily bread ... work is seen as a condition imposed by a master upon a servant as the price of the servant's survival" (ibid. p 152). This development of positive attitudes toward work and the elimination of the stigma attached to manual work was, therefore, seen as a crucial objective of productive activities introduced into the educational system under Manley's Democratic Socialist government. Indeed the social objectives of EPW programmes under Manley's regime was even more far-reaching. They were grounded on the ideal of egalitarianism. The spirit of social cooperation and positive attitudes to work were encouraged with a view to helping to create the climate of a classless society, namely "a social system in which upward and downward mobility are determined exclusively by individual merit subject only to the right of all to a minimum share" (Manley ibid p 160).

The justification of education and productive work linkages in Grenada in the early 1980's was linked to the macro-social goals of the Revolution. There was strong reaction against the academic curriculum dominant in the school system because it was perceived as not catering to the needs of the mass of the Grenadian people. Practical work was allotted along sex lines, so that children were being socialized into a perception of certain forms of work for men, others for women (Brizan 1983). The Revolutionary Government was also determined to eliminate the stigma against manual as opposed to intellectual work. Maurice Bishop in an address at the National Education Conference in Grenada in July 1979, said:

Because our society has perpetuated this false distinction between manual and intellectual labour it is going to be vital for us to break out of that habit and get our young students even while they are in school and while they are growing up to inculcate the practice, attitude and habit of doing work so that they can begin to produce even while they are in school ... It must be important for us to develop an attitude that says - the work of the mind and of the hands must be joined."

Economic Objectives

Because education consumes so much of a nation's annual budget, it is not surprising that economic objectives should feature so strongly in the rhetoric surrounding education - productive work linkages. The introduction of productive work into their curricula is seen as one way of helping schools to become self-reliant, thereby reducing the need to look to government for assistance. But economic objectives are not limited to financing schools. They have much wider implications in terms of both skills training for wage or self-employment and getting the young to participate in national development or reconstruction. In Dominica, for example, the concept of linking education with production first took the form of vocationalizing the school curriculum to include skills training on a limited basis. Later, however, it was expanded to take in employment-oriented courses with a view to curbing unemployment. When hurricane David badly damaged the island in 1979, it became necessary to get technical-vocational institutions that had the required facilities and expertise engaged in some form of production so as to assist in national reconstruction (Alexander 1984). The thrust in EPW programmes in Dominica today is "to reduce the qualitative mismatch between the type of jobs students have been led to expect and the type of opportunities actually available for them after leaving school" (Alexander *ibid* p 3). Economic objectives are also stressed in St Lucia. The Ministry of Education Handbook on the Junior Secondary Schools (1969) states: "the schools must be concerned with aspects of education which enable the student to be employed, earn a living and function effectively in the producer-consumer role". Maurice Bishop, in an address at the opening of the second year of the National Inservice Teacher Education Programme in October 1981, spoke on the theme "Education is Production too". He said:

Education must be related to production because the biggest problem facing our society at this time is the problem of unemployment. We can no longer tolerate a situation in which our youth leave school clinging to certificates which make them feel that the only job possible to them is behind some desk (p 8).

In addition, to curb the cost of education, he said the people receiving the education should contribute to the cost of that education:

If the school has land, produce crops;
If it has a fridge, produce 'sno-ices';
If it has an oven, produce cakes. (*ibid*)

Speaking on the integration of study with the world of work in the Belizean Education system, Said Musa, Minister of Education and Sports said:

The value and dignity of work starts in the home but it must be pursued in the schools. Our young people should not only come out of school with some measure of marketable skills but should be well disposed to work with hands and minds in every sector of the Belizean economy.

Self-sufficiency is another major goal of productive work programmes in New Secondary schools in Jamaica. The production of foodstuffs for the school's cafeteria, the maintenance of buildings, grounds, equipment and the repair and replacement of furniture were main features of the programme. In addition,

schools were encouraged to produce a surplus and students and teachers were to produce and market food, goods and services in the community (Ministry of Education, Jamaica, 1977 p 74-75).

Economic objectives have featured prominently in Guyana's justification for introducing productive work into the school system. A former Minister of Education (Thomas op.cit.) said:

... the quantitative expansion and the qualitative improvement of our education system cannot be attained without a sizable increase in total available resources ... which cannot be realized by merely resorting to the state financial system ... it is within this context that we are proposing that schools become production units in that they will serve a dual purpose, the economic purpose of cost covering and the educational purpose of giving training a technical and practical purpose. Of importance also, is the socialisation purpose where, by introducing work into schools, we are building habits among our students. In addition, productive work renders enormous service by preparing the individual for production for his own consumption. Such production will have an important place in the economy of tomorrow. (Ministry of Education, Planning & Research Unit, Guyana, 1985 p 3).

How have these aims and objectives been implemented? How far have they been achieved? In the next three chapters we shall be examining in what ways these ideals have been implemented in the senior primary and secondary school systems of Commonwealth Caribbean territories.

Summary

1. Since the eighteenth century attempts have been made to prepare the youth in the Commonwealth Caribbean for the world of work (e.g. through the introduction of industrial education into certain schools) but these attempts have invariably been thwarted by the stigma attached to manual work, parental resistance and the high social currency accorded academic curricula.
2. Particularly since the beginning of the 1970's, governments in the Commonwealth Caribbean have put special emphasis on the preparation of youth for the world of work through the implementation in schools of programmes that linked education with productive work (EPW).
3. These EPW programmes have sought to achieve the following objectives to varying degrees:

PEDAGOGIC:	maintain a balance between academic and practical skills
-	use scientific knowledge in production
-	improve/develop self
-	awaken dormant potential in individuals
-	bring out individual creativity

- SOCIAL: eradicate the stigma associated with different types of education
- develop positive attitudes to physical/manual work
 - develop cooperative spirit
 - eradicate gender stereotyping of roles/occupations
 - develop positive self concept
 - develop attitudes congenial to the work place
 - develop individual self reliance
 - create an egalitarian society
- ECONOMIC: reduce the economic costs of programme
- enable institution/programme to become self-financing
 - encourage individuals to initiate self-employment projects
 - promote self-reliance at the national level in the economic sphere
 - preparation of youths for ready employment
 - attract youths to careers in agriculture
 - promote development at the community level
 - attract youths to rural occupations and life in the countryside.

4. Of the three categories of objectives, economic objectives feature most strongly in the rhetoric of Commonwealth Caribbean governments surrounding the linkage between education and productive work.

CHAPTER TWO

EPW PROGRAMMES IN THE SENIOR PRIMARY SCHOOL SYSTEM OF THE COMMONWEALTH CARIBBEAN

At this level of the educational system, what are construed as education with productive work programmes have taken the form mainly of orienting the young to the world of work through exposure to various work-related experiences and agricultural programmes. The latter have been mainly of the school garden type. There are, however, isolated examples of work-study and work experience programmes as well as general vocational programmes.

Vocational Programmes

Grenada

During the early 1980's Grenada instituted an Industrial Arts and Home Economics programme at the primary level with a view to both exposing children to more practical skills and making curricular offerings more diverse. Twelve primary schools offer training in Industrial Arts. Twenty per cent of Primary/All-age schools offer a modicum of exposure to technical-vocational education. Home Economics, however, is done predominantly by girls and Industrial Arts by boys. A number of students in the senior division of All-age schools attend the Industrial Arts and Home Economics Centres (of which there are three of each), where they are given basic introductory courses. The duration of the course at the Home Economics Centre is three years. Classes are from 9.00 am - 3.00 pm. The centres organise fairs and exhibitions to raise funds to purchase equipment and do repairs. (Brizan 1983).

No evaluation of these centres has been done and so it is not possible to say what have been the job prospects of graduates of these institutions.

Guyana

Some vocationalisation of primary education has been instituted here. In a document on Facilities for Technical Education, it is stated that Agriculture, Industrial Arts and Home Economics are among the subjects taught at the primary level. The examination that students take to obtain placement in the secondary school system (the Secondary School Entrance Examination) "places more emphasis now on a number of practical activities which include agriculture" (Ministry of Education, Social Development and Culture, Guyana 1983 p. 3).

St Christopher/Nevis

Dieppe Bay All-age School is a rural school in which children were not usually exposed to vocational training. In 1983, however, a Hotel Training Programme was started in the school with a view to equipping the students with skills for employment in hotels after leaving school. (Halliday 1984). No evaluation of the programme is reported.

Work Experience Programmes

St Lucia

One primary school has experimented with an "attachment programme" wherein during scheduled periods, senior students, on a voluntary basis, are taught trade skills by craftsmen and women in the community. (Braithwaite 1984). This is an isolated case. It does not appear to be a system-wide practice. No evaluation of the experiment has been done.

Work-Related Experiences

St Lucia

In the Choiseul district of St Lucia straw goods are produced as a major economic activity. Primary school children in this district are taught skills of straw goods making during their handicraft lessons with a view to their being able to secure employment if their education is terminated on leaving primary school. In two (2) primary schools there are also experimental projects in the production of cassava and the rearing of rabbits. In the case of the cassava project, members of the community prepare the land while the actual cultivation of the cassava is done by senior students. They learn how to process the cassava as well as to produce commercially the by-products of cassava. In addition, students have to do some theoretical work in business, e.g. simple book-keeping.

Finally, in some primary schools in St Lucia, the Home Economics teacher supervises girls in the preparation of sandwiches for sale during lunch time. Proceeds for the sale enable raw materials to be purchased. Particularly in rural communities, girls are encouraged to continue this as a kind of cottage industry after leaving school. (Braithwaite 1984).

St Christopher/Nevis

In the Newtown Primary School in St Christopher (St Kitts), there is a unit for handicapped children which is involved in a project for the Caribbean Association for the Disabled (C.A.D.). A bi-monthly magazine for C.A.D. is produced in St Kitts and the children are responsible for sending the magazine throughout the Caribbean. The children in the unit form a sort of assembly line. Each child is given a task e.g. to fold, staple, address the envelope, etc. The payment of US\$25.00 which the class receives is used to replenish supplies of classroom materials. Value is attached to this activity in that it is seen as teaching the children about work-situations, how to do an assigned task quickly, the dependence of one worker on the efficiency of another etc. (Halliday 1984).

No evaluation of this programme is reported.

Grenada

In 1980, the Revolutionary Government of Grenada instituted a national In-Service Teacher Education Programme (NISTEP) which was designed to train the large number of untrained teachers in the Grenada school system. These teachers went to centres for training once per week. To keep the children

occupied, a Community School Day Programme (CSDP) was established with a view to giving the students orientation to particular skills. On the day the teachers went for training, members of the community, (e.g. skilled craftsmen, retired teachers, farmers, etc.) went to the schools in their area and gave the children practice training in whatever skills they possessed. Initially, the work of the community volunteers tended to be more supervisory than instructional and thus training there was irregular. (Brizan 1983).

Although there has not been any systematic evaluation of the CSDP, the UNESCO (1982) Report says that the CSDP volunteers "who had been insufficient in number, spasmodic in making their contributions, are inadequate in their oral and teaching abilities, and finally, seriously limited in their knowledge of the subject areas assigned to them to teach". (p. 11).

The UNESCO Report also described the objectives of the CSDP as "ambitious" and questioned whether its compulsory character had not led to some reservations about the programme. The Report in fact suggested that "the status of the Community School Day Programme ... should be re-examined in the light of the present implementation problem it faces".

Work Study Programme

Grenada

In 1982 the Community School Day Programme (CSDP) began operating as a separate body in the Ministry of Education with its own budgetary allocation and staff of eleven. At this time the CSDP was mandated to try out a work-study programme in three primary schools in collaboration with the Agricultural Education Department and the Technical/Vocational Division. The programme involved all students in the school. Practical training was given in agriculture, horticulture and handicraft for various periods of time during the school day. Classes 1-3 were given 2 hours per week, class 4, four hours, classes 5 - 6, six hours and classes 7 - 8 between six to eight hours per week. It was customary practice for students to work in groups of twenty with a teacher and assistant teacher chosen by the group. At the end of each term an evaluation ceremony was held wherein tribute was paid to the best group/teacher, the best individual worker, the best groups and the best academic student. This work-study programme sought to eliminate the distinction between manual and intellectual work, to develop a good work ethic, to link theory and practice, to introduce students to the world of work and give training in relevant skills with a view to alleviating the problem of unemployment. (Brizan 1983).

No evaluation of the programme has been done.

Agricultural Programmes

Education-production with linkages in primary schools in the Commonwealth Caribbean has centred largely on agricultural programmes. These are geared to increasing pupils' basic knowledge of agriculture, removing the stigma attached to work in the soil, teaching the discipline of work and creating pupils' participation in government's drive for food production.

Agricultural Science was first introduced into the primary school curriculum in 1976. It is integrated into the General Science programme and is supplemented by regular school broadcasting programmes. About five periods per week are allocated the subject in the school's time table. All the schools that have enough land have established a garden in which mainly vegetables are planted. Animal husbandry is also done in schools with adequate land space and facilities. No systematic evaluation seems to have been done on the agricultural programme here and opinions about it are conflicting. Halliday (1984), for example, describes these programmes as very practical, but the UNESCO Report (1982) states that in all-age schools "too much time and effort is ascribed to theoretical teaching" (p. 32), the main motivation of which is to fulfil requirements of the Secondary Education Certificate in Agricultural Science. As a result the students leave school without the skills to gain ready employment. The UNESCO Report concludes:

At present agriculture is not popular among the youth in general due to the low income it provides and the ineffective orientation programme included in the education system. (p. 30).

Belize: The Rural Education and Agriculture Programme (REAP)

Belize (formerly British Honduras) is 8,866 sq. mls. in area. With a population of about 152,000, this gives Belize an average of approximately 17 people per sq. ml. This is a source of tremendous potential. And in fact, Belize's wealth lies in its land. Although some 40% of the land is suited to agriculture, only about 10% of this land is in use. Subsistence farming, high levels of unemployment and under-employment, inter alia, have contributed to an exodus from rural Belize to the towns and Belize City. This has exasperated the country's underutilization of the potentially productive agricultural sector. To stem this tide, the Government of Belize has, since the early 1970's, made special efforts to orientate its educational system to agriculture in an attempt to harness the potential wealth. For example, Government's mandate is that secondary school syllabi should be "scientifically oriented particularly towards those sciences which are relevant to the development of agriculture". (Government of Belize, 1977 p. 55).

There are some 203 primary schools in Belize, about 78% of which are located in the rural areas. As in other ex-British Caribbean territories the Belizean primary school curriculum follows on the British model of academic training mainly in mathematics, language arts, science, social studies, the arts and religion. Drop-out rates of the primary schools however, are high. For almost half of the primary school population, primary education is terminal. Between 40-50 per cent of the rural children do not go beyond the eighth grade (Massey 1982). Reasons given for this have ranged from the quality of instruction and poor educational facilities to the low level of teacher education. Only about 36% of Belize's primary school teachers are trained.

In a system that has for so long structured primary and secondary schools' curricula along academic goals oriented to College and University education, only a very small percentage of rural children can naturally be expected to overcome the economic and social constraints that block their aspirations. It

is hardly surprising that so many of them leave school ill-equipped for further education or for the world of work. It was in the hope of redressing the desperate plight of these rural youths that the Belizean government in 1976 launched the Rural Education Agricultural Programme (REAP), "a project that will create the attitude and provide the skills necessary for young people to make meaningful contributions to the agricultural development of the country". (Government of Belize 1977 p. 54).

The main objectives of REAP are stated as follows:

- i) counteracting a perceived tendency for rural school-leavers to aspire to living and working in urban areas or abroad by encouraging through REAP, a positive interest in and respect for rural careers, and a pride in living and working in rural communities.
- ii) making it easier for children to learn the traditional subjects by integrating REAP areas of study with these, to make a bridge between the children's rural experience and the academic subjects.
- iii) making use of action-based teaching methods to encourage children to develop their own learning and problem-solving skills.
- iv) encouraging better nutrition by including practical learning of how to grow and eat nutritious food (e.g. vegetables, small animals, poultry) in the school curriculum.

(Undated Ministry of Education and Sports (Govt. Belize document p. 3-4).

The core of REAP are Learning Activity Packs (LAPS) which are outlines of lessons for appropriate grade levels in which teachers are given performance objectives related to a REAP area of study, suggested activities, instructional materials required and reading references (see Appendix III). These LAPS are developed around nine areas of study: land and water; soil; health and nutrition; ecology; animals; village study; weather; plants; agricultural practices. These serve as the threads to integrate the academic subjects - Language Arts, Maths, Social Studies, Science, Art & Craft & Music. Teachers are required by the Ministry of Education to plan their lessons and to blend these LAPS with their lesson plans. Students in REAP schools are required to spend 50 hours per school year doing supervised agricultural practice.

Each pilot school had an Outdoor Education Centre (ODEC) which consisted of a new building, garden crops, rabbit hutches, etc. for the practical application of learning in an agricultural setting. These ODECs were later replaced by more secure storage units. A number of these units were built during the 1981-82 school year. Heifer Project International (HPI) supplied at cost feeders, wire, chicks, baby rabbits and some feeds. CARE (Cooperative American Relief Everywhere) supplied project schools with equipment, some agricultural supplies, transportation support and some financial assistance in the construction of the ODECs. The U.S. Peace Corps volunteers served as both technical support/coordinators of the pilot schools and as lecturers in the REAP training programme instituted at the Belize College of Education (BCE). The Belize Ministry of Education had the responsibility of training teachers and principals in the pilot schools and supplying an education officer to manage the project.

REAP was instituted in 1976 by a unique intra-ministerial and international agency group comprised of representatives from the Ministry of Education and Sports, Social Welfare and Natural Resources (Agriculture), CARE, HPI and the US-Peace Corps. This group later was formalised into the REAP Advisory Committee (REAP-AC).

REAP was conceived in three phases. During the Pilot Phase (July 1976 - June 1979) it was agreed that the international aid agencies would provide the building, the technical and material assistance and logistical support needed. During this phase, REAP was piloted in eight primary schools in three of six districts in Belize and in one secondary school. The latter, however, withdrew in 1977, largely on account of difficulties in articulating the REAP curriculum with its traditional academic curriculum. The main thrust of the District Level Phase (July 1979 - June 1982) was the expansion of REAP to all six districts in Belize with the gradual transfer of much of the technical and material assistance and logistical support from foreign agencies to the government ministries, community groups and service organisations (e.g. Rotary). This transfer is expected to be completed sometime during the National Level Phase which began in July 1982 "and will be an ongoing programme of undeterminable length" (REAP in Belize - Ministry of Education, Belize publication, October 1983 p. 6). During this last phase, REAP is expected to expand into as many rural primary schools as possible as well as urban schools. One urban school joined the programme in 1984. In 1983 there were 51 REAP schools throughout Belize with 7,984 pupils involved in the programme (Overview of REAP, Ministry of Education, Belize publication 21 November 1983, p. 2). By June 1985, plans are for REAP to be in 65 schools as well as in 35 informal schools. The latter are schools which are practising the REAP philosophy but are directly supported by the Government of Belize's Ministry of Education and are afforded all the resource materials of REAP formal schools as well as teacher training at REAP workshops and seminars.

Training of teachers was done largely through workshops, the length of which varied from two weeks to two days. Between July 1976 and February 1979 some ten workshops were held at which teachers were trained in the use of equipment and record-keeping. They were also given agricultural skill training and introduced to principles of curriculum development (Massey 1982). Twenty similar workshops were held during the District Level Phase.

Various strategies were used to disseminate information about REAP, both to supplement workshops for teachers and principals and to inform the public at large. For example, a newsletter was started in 1977, and a twice weekly radio programme (RAP) was initiated in the same year. In 1981 another 15-minute weekly radio programme - the REAP experience - came on stream. Knowledge of REAP was also disseminated through slide-tape presentations shown to service clubs and the wider community. A REAP agricultural manual (Let's Reap Together) was produced in 1979. It provides the basics of tropical gardening, chicken raising and rabbit rearing.

Community involvement in and support of the schools is seen as vital to the success of REAP. In 1981 a REAP District Council (RDC) was established in each of the six districts of Belize with primary objectives of supporting the establishment and implementation of REAP, initiating policies for the successful implementation of REAP and making recommendations about policies and implementation procedures to REAP-AC (REAP District Council Guidelines, Ministry of Education, Belize, June 1981). A District Council is comprised of

principals of each REAP school in the district; the District Education and Agricultural officers; the local denominational school managers; parents; district representatives from government ministries (e.g. Health, Public Utilities); representatives of district organisations interested in supporting REAP (e.g. Rotary, Lions clubs); the REAP staff or representative.

The main duties of the RDCs are: reviewing the curriculum; monitoring the generation and use of REAP funds; evaluating the effects of the REAP programme on the children; supervising the proper use of storage units and ODECs; implementing and adopting the policies laid down by REAP-AC; receiving, considering reports, comments etc, from P.T.A.'s of REAP schools or other local groups (REAP District Council guidelines).

Massey (1979) describes various measures taken to assess learning outcomes of pupils in REAP schools in comparison with those at non-REAP schools but these proved unreliable. A comparison of the scores of REAP and 130 non-REAP students in the Maths & Language Arts portion of the Primary School Leaving Examination, revealed significant differences between the scores of REAP and non-REAP students in the Language Arts tests. The fact that REAP students scores were higher than the non-REAP students, however, could not be attributed to REAP (Massey 1979 p. 38).

In terms of the objective of teaching children scientific problem solving methods, this has not been achieved since none of the LAPs were designed with that end in mind (Massey 1979). Furthermore, "the formal integration of the REAP curriculum with the ongoing curriculum was not accomplished" (ibid. p. 67).

A survey of parents, teachers and students from a representative sample of REAP schools revealed in excess of 90% positive responses to REAP. Asked what benefits had come from REAP, parents underscored how the programme had influenced their children's diets, and how new agricultural methods learnt could lead to more efficient farming, thereby making the latter a worthwhile occupation (Massey 1979). All of the eight pilot schools were successful in growing vegetables and raising chickens. Seven schools made profits while the other broke even. Community involvement (e.g. in building the ODEC's was "impressive and worthwhile" (Massey 1979 p. 63).

In terms of REAP students opting for working in the rural areas, a survey was conducted of 148 school leavers from eight pilot schools and 11 non-REAP schools. These were the first school leavers to complete a REAP programme. The study revealed that most REAP graduates wanted to proceed to further education in the Belize College of Technology. Almost all the girls from REAP schools wanted to pursue careers in secretarial and commercial fields, while most of the boys wanted training in a skilled manual trade. Of 36 REAP students who responded to the item on the questionnaire, only three expressed any interest in further studies in agriculture. Of the small number of REAP students who reported that they were working (9/39), most were on the milpa with the rest of the family. When asked about their employment preferences, only two boys expressed interest in farming. The writers of the report (Ministry of Education, Belize 1982) said:

This is perhaps a disappointing finding in view of the hopes that a REAP education might encourage more young people to move into careers in this field. (p. 11).

REAP, however, may have had some influence on attitudes towards the community. The study revealed that more REAP than non-REAP school leavers showed greater inclination towards community involvement and had some project going (e.g. poultry raising, bee-keeping). The study, however, revealed little on the lasting impact of REAP on the young.

A study by Edmond (1985) which investigated the influence of REAP on attitudes to agriculture and rural employment revealed no significant differences in attitudes between students in REAP and non-REAP schools. However, both students and teachers in REAP schools considered the programme valuable in terms of helping families to prepare better diets and teaching the young how to become self-employed. Edmond also found that of a random sampling of REAP students, 80% had remained in rural Belize working on the milpa or in citrus groves. Opportunities for rural employment, however, are very limited, since some of the students had to resort to doing things like child care. The main problems experienced by students in REAP schools were: lack of proper clothing for doing agricultural work; scarcity of tools and equipment; inadequate cleansing facilities; poor first-aid provisions; praedial larceny of crops.

Overview

With the exception of Belize, it is questionable how far one can describe agricultural programmes, the sporadic attempts at vocationalising senior primary curriculum, the isolated cases of work-study, work experience and work-related experiences as genuine attempts to link education with productive work. In Grenada, under the Bishop regime, the rhetoric of education - productive work linkage at all levels of the education system, including primary, was indeed very strong but whether this was translated effectively into practice is another matter. Brizan (1983) describes Grenada's efforts at the primary level as "isolated and not generalised and even where cases of such integration exist, they appear to be quite loose" (p. 62). He further adds that "the various programmes in existence seem to suffer from a lack of ideological clarity and perspective. Consequently objectives expressed are too many and too ambitious" (ibid). In other words, according to Brizan, it was never too clear whether the objectives of these programmes were primarily pedagogical, school education-financing or more macro-economic in scope. In any event, in Brizan's view, agricultural work in the primary school system is more demonstration than production-oriented. This, however, is not altogether surprising since primary and all-age schools in Grenada, just as in many other Caribbean territories, suffer from such problems as insufficient land for agriculture, inadequate supply of equipment and tools, and praedial larceny. Guyana, however, does not experience the problem of land shortage. Schools which do not have enough land on site are allotted plots of land nearby.*

Many children in developing countries have to enter the world of work at a much earlier age than children in developed countries. Absentee father are common and so boys especially find themselves becoming bread winners for their families before they have completed primary school. This being the case, it

* Information from interview with Assistant Chief Education Officer and Head of Planning & Research Unit at the Ministry of Education, Brickdam, Guyana, 22 July 1985.

is understandable that in some countries (e.g. Grenada, Guyana, Belize) there is a more concerted effort at preparation for the world of work at the primary level. One can still question, however, whether it is premature to pursue this objective at this level of the educational system. With reference to the Grenada situation the UNESCO (1982) report states:

The main issue with the inclusion of agricultural education in the curriculum of primary schools is the effectiveness of teaching at such an early age of the child's educational development

The question arises whether, in an attempt to focus on productive work, the child's grounding in basic education would not be jeopardized.

Belize tries to overcome this problem through an integration of academic subjects with agricultural knowledge, skills and attitudes in its REAP curriculum. Although there are weaknesses in the learning activity packs (LAPs) a fair measure of success has been attained. One of the reasons for this success can be attributed to the good planning strategies adopted by the REAP innovators.

What is particularly noticeable about the various efforts described is the lack of evaluation. Unless evaluation is built into an innovative programme from the time of its initiation, through its development and implementation to the point when (and if) it becomes institutionalised, information on the extent to which the objectives are being achieved and the programme is having the desired impact is lost to the system. An ongoing evaluation is a strong point of REAP, in spite of the fact that there is minimal data on process, product and the impact of REAP. Nevertheless, feedback data has been used modifying to plans and activities which have proven beneficial to REAP. Good dissemination strategies, government support, and assistance from international funding agencies have also contributed to REAP's success. The involvement of teachers in the development of the LAPs have also contributed to a level of commitment to REAP as well as perhaps to the generally positive attitudes towards agriculture which research has revealed.

REAP, however, is not without its problems. Lack of protective clothing for work in school gardens, lack of proper first-aid provisions, inadequate supply of tools, feeds, fertilizers etc., and praedial larceny give cause for serious concern. Adequacy of funding for national programmes and the need for international assistance cannot be stressed too highly. As the evaluation of REAP has said:

... it has not been proven that the Government of Belize can economically support REAP on a national level without major modifications in the project's procedures and reassignments of the government's resources (Massey 1979 p. 69).

In the long run too, three other factors may prove a threat to the durability of REAP. Firstly, there is the fear that REAP has been implemented in an education system where more importance is attached to academic work at the secondary level. Innovative programmes which seek to make agriculture (or any other form of productive work) the central focus at one level of the educational system will not succeed unless this policy is applied to other levels of the system. If this is not done, an attitude is created that

agriculture-based (a productive work-based) education is suitable for certain types of people but not others. Another threat to REAP's durability is the lack of opportunities locally for further education and training in agriculture for REAP graduates. Finally, the absence of employment-generating strategies or even some government assistance to REAP graduates in setting up their own self-help projects may ultimately lead young Belizeans to question the worthwhileness of aspiring to rural occupations.

Summary

1. St Lucia has an isolated example of a work experience programme at the senior primary level.
2. Some vocationalisation has taken place at the senior primary level in Guyana and Grenada especially with the introduction of Agriculture, Industrial Arts and Home Economics.
3. A number of Commonwealth Caribbean territories have primary school children doing work-related experiences which are deemed beneficial particularly to those for whom primary education is terminal. Training in handicraft and cassava and rabbit production in St Lucia and the Community Day School Programme in Grenada are examples of this.
4. During the early 1980's Grenada experimented with a work-study programme in three primary schools.
5. Agricultural programmes mainly of the school garden type are common in the primary school system in most Commonwealth Caribbean territories.
6. Many of these programmes, however, suffer from such problems as insufficient land space on the school compound for cultivation, poor irrigation, lack of equipment, materials and tools, praedial larceny.
7. Since 1976, Belize has instituted a rural education and agricultural programme (REAP) which centres primary education around the study of agricultural knowledge and skills and the development of positive attitudes to rural living and work in rural Belize. The programme has met with some success despite some problems with implementation.
8. Some factors that have contributed to REAP's success are: good planning strategies with a reasonable time perspective before institutionalisation; assistance of international funding agencies; government support; good dissemination strategies; teacher involvement in development of curriculum materials; community support; ongoing evaluation of the programme.
9. The main threats to REAP's durability are: REAP being confined to one level of the education system as there is no continuity to the secondary level; lack of enough opportunities locally for further training in agriculture; absence of employment-generating strategies for rural Belize.

CHAPTER THREE

LINKING EDUCATION WITH PRODUCTIVE WORK: THE VOCATIONALIZATION OF SECONDARY SCHOOLS' CURRICULA

It is at the secondary level that we find the most concerted efforts by governments in the Commonwealth Caribbean to link education more closely to the world of work. These efforts have mainly taken the form of including technical courses alongside academic subjects in secondary schools, vocationalizing the curriculum, introducing work experience or work-study programmes, and setting up special agricultural schools. The Junior Achievement Programme designed to give young people insights into the business world as well as skills to set up and run their own businesses is a relatively recent innovation.

Jamaica

Technical Vocational Schools

Technical training has a long history in certain Commonwealth Caribbean territories. In 1898 in Jamaica, for example, the Government opened the Kingston Board School which gave specialised instruction in wood-working as a preparation for trade training. This school was upgraded into the Kingston Technical and Continuation School in 1911, a product of the consolidation of the Manual Department, the Technical Department for boys, the Continuation School for boys and girls, the Domestic Science Department for girls, and evening classes in technical, commercial and Domestic subjects (Turner 1979). In the late 1890's in Jamaica, Industrial Schools were also offering training in artisan skills. The most comprehensive of these schools was the Government Industrial School and Reformatory for boys and girls at Stony Hill. Here, training in carpentry, masonry, blacksmithing, tailoring, baking, sewing and gardening was offered.

Because of a dependence on plantation agriculture at this time, there was little demand for technical training institutions and so their development was rather slow. Furthermore, exactly what these institutions were designed to achieve was not clear. Objectives vacillated between skill training and instruction in desirable habits and attitudes. The headmaster of the Kingston Board School, for example, emphasized that the objective of the school was "not to teach a trade but to train the hand and eye with a view to obtaining ability which could be helpful in any direction". (Turner 1979 p. 97). Woodworking, for the headmaster, had the potential for developing certain desirable values and habits of close observation, concentration and painstaking industry.

The 1960's ushered in an upswing in technical-vocational education in Jamaica. It was during this period that most of the island's Technical High Schools were built. Since these schools were established with a view to meeting the increasing demands of the industrial and commercial enterprises for trained young people, the curriculum of these schools is oriented towards technical and vocational training that includes applied science, craft skills, and courses in the commercial, industrial and agricultural areas as well as in general academic subjects. Specialized courses vary from one Technical High

School to another to accord with the needs of the locality and the availability of facilities. Vere Technical, for example, offers courses in Process Instrumentation and Chemical Plant Operation, while Kingston Technical offers a general course in Engineering. On completing their studies, Technical High School graduates are expected either to be readily employable or prepared to undertake further studies in tertiary institutions such as the College of Arts, Science and Technology (CAST).

Since 1975/76, total enrolment in these schools has increased at an average annual rate of 10%, indicating a continuing strong demand for this type of secondary education. In fact, positive attitudes toward technical-vocational education among both parents and teachers have been expressed by Steward (1976). As a result of this strong demand, although Technical High Schools were originally intended to offer a four-year programme (Grades 8-11), in recent years some of them have not only added grade 7, thus offering a complete five-year secondary cycle, but have also extended into grade 12 (since 1977/78) in an attempt to prepare students in one year for the GCE 'A' Level examination (UNESCO 1983). The majority of the grade 11 students from these schools enter the labour market. About 5% continue to the University of the West Indies and about 20% proceed to further studies at CAST.

Research, however, has shown that only 20% of school periods in Technical High Schools are spent on technical and agricultural vocational subjects. Although this represents the highest percentage amongst secondary level institutions, it is still low for a curriculum which, theoretically, heavily oriented towards inculcating employable skills. Maths and Science are allotted 27% of curriculum time and the remainder is given over to academic subjects. The following conclusion drawn by UNESCO (1983) report is, therefore, not surprising:

Technical High Schools have a tendency of assimilating themselves to High Schools with a primary objective or even exclusive objective of preparing students for continuing tertiary level and, in particular, university education. (p. 63)

Vocational Schools

Vocational schools offer concentrated programmes of training in particular skills for employment of adolescents in specified occupations. The curriculum usually has a 60:40 ratio of practical work to other subjects (e.g. English Language). Carron Hall caters specifically to the vocational needs of girls. It began in the 1920's as a home for under-privileged girls but became a Practical Training Centre in 1937. In 1962 it acquired its present status. It offers a two-year course in Home Economics, Crafts and Beauty Culture, along with related subjects such as English Language, Mathematics, Health Sciences and West Indian History. Students graduating from this school are readily employable in such areas as Government services, and the social services. A few have proceeded to Teachers College, School of Nursing and CAST.

Since 1978 Knockalva School has undergone major expansion through a joint project between the government of Jamaica and the Royal Netherlands Government. The school, which accommodates some 150 students, offers a three-year co-educational residential programme in agriculture. Graduates of Knockalva

proceed to the Jamaica College of Agriculture for further studies or are employed as Agricultural Extension Officers. A number are also appointed to the Agricultural Science programmes of All-age and New Secondary schools.

Elim Agricultural School was built under the joint funding of the Jamaica Government and USAID, as part of a project designed to upgrade formal and informal education related to rural living and employment. The school has its intake from from new secondary, technical high and all-age schools. It operates a 35 hour week of work-study which combines formal instruction, indoor laboratory work and outdoor practical field work. The programme lasts for three years and offers courses in animal science and production; crop science and management, soil science, farm management, agricultural mechanics, maths, integrated science, English language and social studies. Graduates of this school either proceed to immediate employment, usually in agricultural science departments of all-age schools, or to further studies at the Jamaica College of Agriculture.

Comprehensive Schools

Jamaica has six Comprehensive schools catering to the 12-17 age group. The curricula offered in these schools combines academic, technical and vocational components from which students may select. Only about 10% of curriculum time is spent doing skill-training, suggesting that in general the institution is more academic (UNESCO 1983).

New Secondary Schools

Junior Secondary Schools, which were built in the late 1960's with the help of the World Bank, were converted into New Secondary schools in 1974. These schools cater to the 12-17 age group (grades 7-11). They emphasize technical/pre-vocational education, and the graduates of grade 11 are expected to be immediately employable. Some 40% of curriculum time in grades 10-11 is devoted to prevocational skill training. Work experience is also an integral part of the grade 10-11 programme.

Learning Outcomes: Impact

The general view of New Secondary schools is that they have not succeeded in linking general education with pre-vocational training. The attempt to accommodate both turns out to be unfeasible in terms of the curriculum, timetable, the organization of courses, the practice of streaming (UNESCO 1983). The generally poor quality of education offered in these schools has led to a decrease in the demand for places in many of them (UNESCO *ibid.*) These schools appear to experience difficulty in giving students a sufficiently good mastery of the basics in mathematics and science especially, which is needed for the acquisition of pre-vocational skills. Serious language difficulties are also experienced by many of these students (see Jennings-Wray 1981 p. 14-52). The New Secondary schools are well equipped but the equipment is either minimally used, not used at all or unsuited to modern skill training. In an effort to win respectability in the eyes of society, New Secondary schools tend to implement their pre-vocational curricula essentially as a pseudo-academic exercise leading to a school certificate

which it was hoped would be viewed as favourably as G.C.E. and C.X.C. This has been a vain hope, however. (Murray et al (1979) aptly sums up a prevalent view of New Secondary schools thus:

Nothing in the curriculum of these schools is designed to encourage a change of attitudes in favour of technical-vocational occupations, and nothing to predispose the potentially creative and inventive minds towards self-employment. Such vocational guidance as exists stops short of promoting alertness to latent changes in the job market or the sophistication that is required of young workers in taking confident advantage of credit facilities either in cooperative enterprises or outside them. (p. 110).

Dominica

In 1969, Dominica and other islands in the Windwards established a Regional Youth Camp (RYC) at Londonderry in Dominica on 43 acres of land. The primary purpose of the RYC was to train young men for employment in agriculture and the technical trades. Another objective was that of making the youth camp self-sufficient by including productive work in the curriculum. The RYC had training periods of up to 18 months in Agriculture, Building Construction, Auto-Mechanics, Welding, and Art and Craft. Alexander (1984) describes the RYC as the first organized attempt at linking education with production in Dominica. At the RYC, students grew their own food, reared poultry for their own use and set up any building needed on the camp site. Although the RYC ceased functioning in 1974, the programme paved the way for other skills training programmes in the educational system.

During the 1980's Dominica launched a massive thrust in vocational training which was heralded in the policy statement by the Minister of Education on assuming office in 1980:

Vocational training should be fully integrated in the secondary school curriculum. Every secondary school should have a workshop or handicraft centre ... at which vocational subjects could be taught ... (Alexander 1984 p. 4)

A first move towards implementing this policy was made in 1981 with the setting up of the Junior Secondary Programme (JSP) in 14 all-age schools, involving some 2,105 students in grades 8-10 (12+ to 15 yrs). In September, 1982, nine more schools were added to the programme. The primary aim of this programme was "to shift the emphasis of the curriculum from its traditional academic bias to include employment oriented programmes as part of the drive towards socio-economic and industrial development" (Alexander ibid. p.9).

Programme

The skills emphasized in the programme depended on the district in which the school was located. A school in a remote rural area, for example, would emphasize agriculture or perhaps boat building because the lack of electrical supply to the area would make it unfeasible to do electrical trades training. The latter however would feature in the curriculum of an urban school. Special effort was also made to enable the programme to respond to the needs

of the community in terms of trades training. Training of instructors for the programme was made possible by the aid of a UNESCO consultant who held workshops in techniques of occupational and task analysis, evaluation methods and work programmes.

Learning Outcomes: Impact

A formal evaluation of the JSP was supposed to begin in late 1984; but Alexander (1984) describes the achievements of the programme up to that time as "commendable". Students who took part in the programme received exposure to basic tools and equipment in the various trades and were able to produce finished articles (e.g. furniture) for use in the school or for marketing. The JSP also prepared students for technical training at a higher level (e.g. at the Clifton Dupigny Community College). In the absence of a formal evaluation of the JSP at this stage it is not possible to assess how effectively the programme is preparing students for the world of work. The JSP, for example, suffered from such problems as lack of sufficient tools and equipment, a scarcity of trained teachers of vocational skills, insufficient funds for the general upkeep of the programme in spite of the assistance of local and international aid agencies. Alexander (op. cit.) identifies negative attitudes to manual work both inside the school and in the society at large as the setback which has militated against the programme most noticeably.

St. Christopher/Nevis

Some attempt has been made to vocationalize the secondary school curriculum in St. Christopher. In the Basseterre High School, for example, a Business Studies programme was proposed in an effort to attract more intelligent girls into the secretarial field and in the Basseterre Junior High School (BJHS) a project to give students skills in block-laying was added to the Industrial Arts programme. A need for more block-layers was identified at the time but because the BJHS did not have the tools, materials and expertise, the students involved in the programme attended classes at the St. Christopher/Nevis Technical College. Of interest too is the programme in barbering put on at the BJHS for school leavers. The programme was aimed at both getting students to take pride in their personal appearance and giving them skills in barbering that would enable them to find ready employment (Halliday 1984).

No evaluation of these programmes has been done.

Trinidad and Tobago

In Trinidad and Tobago's Senior Secondary Comprehensive Schools (SSCS), students between the ages of 15-18 are exposed to specialized courses geared to meeting manpower needs.

Programmes offered in the SSCS are divided into three: academic, pre-technical and specialized craft. The Pre-Technical division (PTD) offers courses in business, metal and woodwork and mechanic shops. The PTD is designed to prepare students for technical schools who eventually will fill positions of technicians in business and industry. The specialized craft division is intended for students who will join the work force as apprentices immediately on leaving school. Courses offered are in wood and metal work, machine shops, agricultural science and home economics.

The SSCS have encountered a number of problems including shortage of supplies, and improperly installed equipment. In addition, the technical instructors have tended to be those with lesser qualifications since the better trained ones are attracted by the more lucrative salaries offered by industry. Courses at the SSCS have tended to be too theoretical, and the situation is further complicated by the fact that a number of the students who enter the programme have not acquired literacy and numeracy skills to an appropriate level. Generally speaking, then, the pre-technical and specialised craft courses have been poorly implemented. Society has come to regard students who attend the SSCS as low achievers. On the whole, they do not perform as well at the GCE/CSC examinations as the students who attend private or government secondary schools. There is, in fact, an estimate of over 80% failure rate amongst SSCS students doing technical courses (Williams and Harvey 1983).

Antigua

Little information is available on the impact of the programme offered at the Princess Margaret Secondary Comprehensive School (PMSCS) even though when it was opened in 1983 it was said to have "heralded a new era in education when conscious efforts were made to introduce strong links between education and productive work" (Knowles 1985 p.2). In 1961 a Technical Training Centre was established on the grounds of the PMSCS with funding from the United States International Cooperation Administration. The Centre provides training in wood and metal work, basic electricity, plumbing and machine shops.

Barbados

In 1976, when the school leaving age was raised from 14 to 16, vocational centres were established in Barbados with the objectives of providing remedial education for slow learners who needed to upgrade their functional literacy skills and to give these students training in vocational and craft skills. By 1982, seven such centres were in operation. Starting at age 12, students were given two years of remedial education which was then blended with craft and vocational training for their remaining two years in school. Craft training was given in straw and macrame, basketry, shoe-making, net and hammock making. The centres are government-maintained. All finished work is sold and the revenue used to maintain the centres (Barnett 1983). No evaluation of this programme has been reported and no records have been kept to show how many students actually succeeded in getting employment on leaving school. The centres seek to instil discipline in children who have learning difficulties (Barnett *ibid.*), but they also prepare the more able students to take the Barbados School Leaving Certificate or the London Chamber of Commerce examinations.

Guyana

Bladen Hall Multilateral Secondary School (BHMSS)

In 1975 the BHMSS was established. It is surrounded by the semi-commercialised township of Buxton and the more agricultural township of Nonpareil. The aims of this school are: i) to meet the technical needs of commerce, small industries and agriculture in a more practical way than traditional high schools; ii) to promote the national need for self-reliance in production; iii) to develop positive attitudes to agriculture.

The BHMSS was built with World Bank funds, but the recurrent costs of the school's maintenance have to be met by the efficient management of agriculture, home economics and other programmes from which funds can be acquired through the sale of products or services.

The school has departments of Arts, Science, Technology, Agriculture, Business and Home Economics. Practical skills in agriculture are promoted through the farming of 85 acres of rice and 5 acres of vegetable produce. Students doing Business and Technology do a work experience programme in which they get on-the-job experience for six weeks in firms and factories.

The extent to which the school is achieving its aims is thrown into question by Turner and Persaud (1980) whose investigations revealed that students with high grades in Mathematics and Science were encouraged to study them at G.C.E. 'O' level and CSC, but those that earned low grades were channelled into Business Studies, Home Economics or Agriculture. That such a practice is likely to develop positive attitudes to agriculture is questionable.

Of interest too, is Table 3.1 showing the number of girls compared with boys who participate in selected subjects. Sex-role stereotyping of subjects is clearly evident.

Table 3.1: Boy:Girl ratio in Agriculture, Technology and Home Economics in final year of specialization

<u>Subject</u>	<u>% Enrolment</u>	
	<u>Boys</u>	<u>Girls</u>
Agriculture	60	40
Technology	90	10
Home Economics	0	100

Source: Turner & Persaud (1980 p.22)

An interview with the Assistant Chief Education Officer in the Ministry of Education, Guyana, revealed concerted efforts on the part of the Ministry to discourage sex-typing of subject choices. A programme has been implemented in secondary schools wherein girls also do Industrial Arts and boys do Home Economics.

Community High Schools

The thrust towards linking education with productive work has been stronger in Guyana in the Community High Schools. A Member of Parliament on the occasion of the opening of the first residential Community High School at Port Kaituma North West said:

The Community High School Programme can assist in ensuring that it is used as an instrument of true democracy and a tool for fashioning the socialist society through its comprehensive programme provide education for self-reliance ... life in our Community High School will further the social goals of living together and working together for the common good. (Ministry of Education, Guyana 1985 p. 3).

More specifically, the objectives of these schools have been identified thus:

to provide academic and pre-vocational training which supports the wide range of occupational skills necessary for the economic and social development of Guyana.

to involve the school population in community schemes which identify job opportunities in the areas where students live.

to prepare students for self-employment in accordance with their skills and interests and the particular needs of the communities where the schools are situated. (Ministry of Education, Social Development & Culture 1979 p.4).

During the first three years all students study a common curriculum including such subjects as English, Mathematics, Science, Social Studies and General Reasoning. Remedial education is an important feature of the academic programme. During their final two years, these students specialize in pre-vocational areas, including involvement in a work-experience programme during their last year. On graduation, students either take up employment immediately or proceed to the Government Technical Institute or the Guyana Industrial Training Centre.

Beterverwagting was the first Community High School to be established (in 1973). Its Agricultural Department has five acres of land on which students do vegetable farming and small livestock rearing. Students in the Industrial Arts Department have done such work in the school as the construction of a boiler unit for the school farm, they build and repair furniture and they run electrical lines for their workshops. The school has strong links with the community. For example, the Home Economics students do the catering for the Village Council meetings, while the Agriculture students supply the community with poultry, eggs, meat and vegetables. The Industrial Arts students repair the household appliances of members of the community. The payment received for their services is used for the upkeep of the school.

A follow-up study has been done of the first batch of graduates of the Beterverwagting Community High School (Ministry of Education, Social Development and Culture 1979).

**Table 3.2: State of Employment of Graduates of the
Beterverwagting Community High School**

	<u>No. Respondents</u>	<u>% Employed</u>
Full-time employment	31	45.6
Unemployed	32	47.9
Full-time training	5	7.4
Self employed	0	0

As Table 3.2 shows less than 50% of the students had obtained full-time employment and nearly 48% of the students were unemployed. These students felt that their unemployment was due to the fact that employers did not consider the Community High School diploma adequate qualification for a job. However, of the employed 60% had obtained their jobs at the same place they had done work experience. Over 93% of the students had high job satisfaction. They found their work interesting and reported that the employer's attitude towards them was positive. Employers themselves reported satisfaction with the graduates of BCHS. Over 80% of them felt that these graduates were competent, willing and displayed enthusiasm on the job.

On the whole, the graduates were satisfied with their programme at the BCHS but expressed some concern both over the theoretical emphasis in the pre-vocational subjects studied in their final year and over the fact that some students were unable to do work experience in the areas relevant to their pre-vocational studies. The writers of the follow-up study concluded:

... the Community High School programme has been workable not only in terms of relevance to community needs, but also in making the transition from school to work for the graduates less traumatic (p. ii).

An interesting aspect of the study is the attempt by the researchers to relate skills required in the actual job situation with those learnt by the students in their pre-vocational courses. For example, the researchers reported that four graduates who obtained jobs at Guybau Construction Ltd, used the skills in their jobs which they had learnt in their pre-vocational studies. However, of four graduates who obtained jobs at Guyana Footwear Ltd., two had studied Home Economics, one had studied Agriculture and the other had done Tailoring. Another example given was of a student of Agricultural Science who ended up doing clerical work at the Beterver Wagting Post Office. Moreover 19 of the graduates had to move away from the community in order to secure jobs.

This is somewhat disappointing since the *raison d'etre* of the Community High School programme is to train students to fulfil job requirements for their particular communities. (Ministry of Education, Social Development & Culture 1979 p.42).

Summary

1. Industrial schools in Jamaica in the nineteenth century sought to give both skills training and instruction and to develop desirable habits and attitudes. Their development was slow, however, due to the low demand for technical training.
2. Since the 1960's, secondary level educational systems in the Commonwealth Caribbean have implemented EPW programmes mostly in comprehensive, technical high and non-selective secondary schools.
3. EPW programmes have been implemented on a fairly large scale in territories like Jamaica and Trinidad and Tobago, whereas in others (e.g. St. Kitts/Nevis, Antigua, St. Lucia) they have been more sporadic and isolated.
4. There is a great demand for places in Technical High schools in Jamaica, but since the late 1970's, the curricula of these schools have tended to become more academic rather than oriented towards inculcating employable skills. Only about 20% of curriculum time is spent on technical and agricultural subjects.
5. Jamaica has one vocational school that caters specifically (though in a limited way) to the vocational needs of girls.
6. New Secondary schools in Jamaica emphasize technical and vocational education with work experience as an integral part. Some 40% of curriculum time in grades 10 and 11 is devoted to vocational skill training. Graduates are expected to be readily employable.
7. There is, however, a general decline in the demand for places in New Secondary schools in Jamaica. They tend to be viewed as "second class institutions" and their EPW programmes are not accorded the high social currency given to the academic curricula of traditional High Schools.
8. In 1981 Dominica implemented a Junior Secondary Programme in 14 All-Age schools. The JSP is oriented to responding to the trades training needs of the community. The programme has achieved some success but negative attitudes to manual work are proving a setback.
9. The Pre-Technical Division in Senior Secondary Comprehensive Schools (SSCS) in Trinidad and Tobago offers courses designed to prepare youths to fill the positions of technicians in business and industry. SSCS students who do specialized craft courses usually join the work force as apprentices on leaving school. SSCS students, however, are generally regarded as low achievers and there is high failure rate amongst those doing technical courses.
10. A Technical Training Centre on the grounds of the Princess Margaret Secondary Comprehensive School in Antigua provides youths with training in wood and metal work, basic electricity, plumbing and machine shop.
11. In 1976, Barbados established some vocational centres which provide both remedial education for slow learners (aged 14 - 16) and vocational and craft skills training.

12. Community High Schools in Guyana have a strong thrust towards linking education with productive work. During the first three years all students study a core curriculum of academic subjects which also tackle the problem of remediation. In the final two years students specialize in pre-vocational areas including a Work Experience component during the final year. Graduates either move into immediate employment or proceed to a Technical Institute or an Industrial Training Centre.
13. A follow-up study of the first set of graduates of Beterverwagting Community High School in Guyana revealed:
 - almost as many graduates were in full-time employment as were unemployed
 - some employers did not consider the Community High School's diploma as adequate certification for a job
 - over 93% of the graduates had high job satisfaction
 - over 80% of the employers considered that the graduates were competent, willing and displayed enthusiasm on the job
 - some graduates expressed dissatisfaction with the overly theoretical emphasis in the final year programme which was supposed to be highly practical
 - students in certain vocational areas (e.g. industrial arts) found jobs related to skills learnt in vocational training, but others (e.g. Home Economics and Agriculture) had jobs unrelated to their vocational skills training
 - the objective of getting youths to fulfil jobs in their community was not being achieved.
14. The vocationalizing of school curricula (e.g. in New Secondary schools in Jamaica, Bladen Hall Multilateral Comprehensive School in Guyana, and Senior Secondary Comprehensive Schools in Trinidad and Tobago are beset with such problems as insufficient supply of tools and equipment; lack of funds; negative attitudes to manual/practical work; low literacy and numeracy skills of students entering the programme; high failure rate in technical courses curriculum overly theoretical; and scarcity of qualified teachers of vocational subjects.
15. Although it is not official policy that girls should do different technical-vocational subjects from boys, there is evidence of sex-typing in vocational subjects in Guyana and Jamaica. Guyana has a policy of discouraging such stereo-typing, as had Jose Marti Secondary school in Jamaica.
16. International Aid Agencies (e.g. World Bank, USAID) have assisted in funding EPW programmes such as the Junior Secondary Programme (Dominica), the Junior Achievement Programme (Jamaica), Bladen Hall Multilateral Secondary school (Guyana).

CHAPTER FOUR

WORK EXPERIENCE AND WORK-STUDY PROGRAMMES IN SECONDARY SCHOOLS

Work Experience Programmes (WEP)

Guyana

What has been defined in this study as "work experience" is described by the Ministry of Education in Guyana as "work studies". The latter "is a cooperative undertaking between school and industry or business enterprise which results in students being attached for specific periods to the industry or business enterprise in order to inculcate personal and community development" (Ministry of Education, Social Development and Culture, undated, p.1).

WEP was first introduced into Guyana in 1975 where it was piloted in the Beterverwagting and Lodge Community High Schools. Main objectives of the WEP in Guyana are: to provide a smooth transition from school to the work environment for the student; to enable students to relate their classroom activity to those conducted in the work environment; to provide students with the opportunity to test their interest in and suitability for their chosen occupations; to develop in students desirable attitudes and habits needed in a work setting (e.g. learning the importance of time, respecting authority and getting on well with fellow workers); and to give the school and industry/commerce an opportunity to understand how each other functions (Ministry of Education, Guyana, undated p.1).

Although the system of free education in Guyana allows for all students in Community High and Multilateral Schools between the ages of 14-18 to do work experience, because students outnumber the skill places available in industry and commerce, some selection has to be done. Basic criteria for selection are first, that students must normally be in the fifth or sixth forms of Multilateral Schools or in their final year at the Community High School; second, that at school they should have a subject specialization; and third that, they should have attended school regularly and have a record of punctuality and good conduct.

The duration of WEP in Guyana varies. A student may be attached to a work situation for a 4-8 week block; 6-12 weeks on a day release basis (2 days per week maximum); or 3-6 months (one day per week). Graduate students may be attached to sugar estates for six months. Block periods of the WEP are organized during the school vacations (Christmas, Easter and August) while day releases are organized when convenient while school is in session.

While students are at the work station, WEP officers and teachers make regular checks on them to ensure the smooth flow of planned activities, including evaluation of the students' progress. A review is done at about the mid-point of the attachment, involving students, teachers and trainers. At the end of the attachment, the WEP officer organizes a de-briefing session attended by students, parents/guardians, representatives of management, and a representative of the Ministry of Education. The purpose of this session is to identify attitudes gained, other outcomes acquired and possible strengths and weaknesses of the particular attachment.

The follow-up study of the Beterverwagting Community High School revealed difficulties in obtaining work stations for students in the areas of their pre-vocational study. There is no other reported evaluation of the Work Experience Programme in Guyana. Much onus is put on the headquarters and prevocational teachers for the successful functioning of the WEP. They are expected to adopt a flexible attitude with regard to time-tabling, curriculum and methods of assessment, and "be the source of motivation, leadership by example and the agent to ensure that the practical work is really a complement of the students' academic work ..." (Ministry of Education, Guyana, undated, p.7). Through its own ongoing assessment, the Central Administration (Ministry of Education, Social Development & Culture) has identified ways in which problems that the WEP encounters can be solved:

- the development of an adequate mechanism to maintain the effectiveness of both work-study education and Industrial Arts programmes
- the need to involve more local craftsmen and technicians in teaching skills within the school system in order to minimize the lack of technically competent teachers
- the need to win greater levels of acceptance of graduates by institutions and employers
- proper placement of graduates and how to channel their inventiveness toward the creation of employment for themselves ("Preparation in School for Employment". Ministry of Education Social Development & Culture, Guyana, undated, p.2).

Jamaica

In Jamaica, the WEP involves grade 11 students in New Secondary Schools being released for 21 days to get experience in work stations or agencies in both the public and private sectors to sample at first hand a realistic employment situation tied as closely as possible to their vocational areas of study (Ministry of Education, Jamaica 1978). Students on work experience are not paid but are covered by insurance arranged by the Government.

Each New Secondary School participating in the WEP has at least one Work Experience Teacher appointed to administer the programme in terms of locating work stations, liaising with employers, placing students for work experience and supervising them while they are at their work station. Larger New Secondary Schools may have two WEP Teachers.

Students are given pre-work experience orientation by Guidance Counsellors who are responsible for the dissemination of career information and for the development of career awareness on the part of the students. While students are on work experience, they come under the supervision of the employer or work station supervisor. The WEP teacher is expected to monitor the students' activities, performance and progress by making at least one visit per week to the work station.

The purposes of the WEP in Jamaica are much the same as those for Guyana.

Some evaluation has been done of the WEP in Jamaica. Teape (1980), for example, found that scores in relation to work habits and skill competence given by managers at work stations to students were generally higher than those given by their vocational teachers. This suggests that students' skill competence either improved greatly during WEP or that they performed better in actual work situations. Other research has highlighted difficulties experienced in finding openings in industry or business where students could actually use the skills acquired in their vocational areas. In addition, among the factors that limit the impact of the WEP are: students having to do menial tasks rejected by their co-workers; lack of proper supervision at the work station; lack of incentives; financial embarrassment; high cost of transportation; limited opportunities for work experience in rural areas (Jennings-Wray and Teape, 1982; Mattis 1981).

An interesting aspect of Mattis' study was the graduating students' job aspirations. One of the objectives of the WEP is "to provide the student with increased opportunities to enter an occupation related to his/her vocational area of study" (Ministry of Education, Jamaica 1978). Whereas the majority of students (67-100%) doing electrical installation, textiles and clothing, business education, carpentry, cooking and nutrition and child care wanted jobs related to their area of vocational study, the majority of students doing agriculture (60%) sought white collar jobs in agriculture or opted for careers unrelated to agriculture. This supported earlier findings by Lowe and Mahy (1978).

In terms of preparedness for employment, in the opinion of both employers and vocational teachers, Jamaican students involved in the WEP in general do not have the skill competence necessary for immediate employment, although it was felt that they had developed the sorts of behaviours (punctuality, cooperation, reliability, willingness to take orders etc.) which were necessary at the work place. Employers, particularly in the garment industry, large electrical firms and in the area of business, felt that students had not been properly trained to handle modern equipment and technology. Of interest is the employers' view that they only consider students qualified for a job when they have GCE 'O' level (in some cases CXC) certification. They were not familiar with the Secondary School Certificate with which New Secondary students usually graduate and were unwilling to accept it. When asked why they felt that students were not adequately prepared for immediate employment, the main reasons given by vocational teachers were financial constraints, insufficient supply of materials and equipment in school workshops, and teachers' own inadequacies for preparing students for employment in vocational areas. When Mattis enquired from 48 randomly selected graduates of New Secondary Schools who had done WEP whether they felt that the skill training they had received in their vocational areas qualified them for ready employment, 69% of them said they were not fully qualified for a job and expressed the view that they needed GCE 'O' level certification to satisfy the employers' expectations, and 90% of them reported a lack of employment opportunities in the communities. This is indeed a serious problem and is one of the reasons for the high level of unemployment amongst graduates of New Secondary Schools in Jamaica. In the random sample of graduates exposed to the WEP, in excess of 50% have been found to be unemployed (Jennings-Wray and Teape 1982; Mattis 1981).

Other Territories

Examples of work experience programmes similar to those described above can be found in most Commonwealth Caribbean territories. Dominica's Junior Secondary Schools, for example, have an on-the-job training component which incorporates day-release schemes wherein students learn skills in government and private organizations. Skilled craftsmen in the communities supplement the shortage of vocational teachers in the Junior Secondary Schools (Alexander 1984). Castries Comprehensive School in St. Lucia around 1978 initiated a work experience programme for Business Education students wherein local employers accept a small number of students doing accounting and secretarial courses for a period of about six weeks during the vacation. Although there is no evaluation of this programme reported, many of these students obtain employment in the places where they do their work experience (Braithwaite 1984). The community Day School Programme in Grenada has a work experience component for the 15-17 year olds in secondary schools. In connection with the National Inservice Teacher Education Programme, on the day when teachers had to go to the Centres for training, students would do 5-6 hours work in a public or private enterprise (Brizan 1983). The St. Lucy Secondary School in Barbados is situated near a garment factory. Students in their final year at the school are released to get skill training at the factory for two hours per day for four afternoons per week. This scheme, however, appears to have been developed for the less academically able students (Barnett 1983). The scheme was approved by the Ministry of Education which pays insurance for the students. The students do not receive any payment. At the Princess Margaret Secondary School in Barbados, a work experience programme in agriculture was initiated during the 1981-82 school year. Senior students are released for one morning a week to work on nearby farms. Some students receive a stipend for their work, but this is voluntary on the part of the farmers.

Junior Achievement Programme (JAP): Barbados

The main objectives of the JAP are to give youths the opportunity to learn at first hand how a business operates and learn elements of free enterprise, and enable them to gain an understanding of economics and human relations. This is achieved by bringing together 15-20 secondary school students with a number of adult business advisers for approximately two hours per week over a period of seven months. The Junior Achievement Centre is located at Galba Lodge, Fontabelle, St Michael.

Each group of students functions as a small business for about one school year during which time they establish the business and sell shares to raise operating capital. They elect officers, choose the product they wish to manufacture, map out marketing plans and keep records. They pay wages to workers in the company and pay a nominal rent for the premises used.

The companies are usually of a manufacturing type using a production line technique. Because students are paid only for the time they put in, high attendance rate is encouraged. The scheme, additionally, has a number of built-in incentives. For example, achievement award certificates are issued at the end of the year to encourage good management performance, good sales and company performance. At the end of each year the company is liquidated. Financial and annual reports are presented and dividends returned to shareholders.

The Scheme sponsored by the Barbados Chamber of Commerce is a joint venture between senior students in secondary schools about to enter the job market and executives in commerce, manufacturing and small business.

No formal evaluation has been done of the programme, but a growing demand for places in the scheme by schools suggests that its value as a work experience activity is well recognised (Barnett 1983).

Junior Achievement Programme (JAP): Jamaica

The pilot project for the introduction of JAP into Jamaica was sponsored by the Jamaica Chamber of Commerce and financed by USAID and local business companies. The pilot project established in 1983/84 involved six schools, including High school, New Secondary and Comprehensive types. Currently, some nine schools are involved in JAP. The programme organisation is much the same as in Barbados with groups of 15-25 students (aged 14-18) getting together and forming and operating their own companies with the advice of middle or senior management of well established firms. The individual companies function like any corporation. They are presented with charter licenses from their advisory or counselling company which legalises the company's status and operations. The advisors are expected to spend three hours per week with the students. At the end of a 15-week period the officers are required to liquidate their companies, publish a simplified annual report and return dividends to the shareholders.

Again, no formal evaluation of JAP has been carried out but an investigation has brought to light certain difficulties experienced by students. One of the greatest setbacks the programme creates is conflict with the students' work, with participants reporting low grades as they were too physically taxed after day duties to do homework. Procuring raw materials was another problem as well as workers demand for higher wages.

Advantages far outweigh disadvantages. Advantages that company members identified included the combination of the practical realities of business operations with the theoretical requirements of academic subjects, learning the value of good interpersonal relations between management and workers, appreciating the advantages of division of labour and specialisation.

Companies formed are largely involved in making pastry, canteen service and wood products. They have recorded profits of between J\$400 to over J\$3,000 (Hill 1985). It has also been said that students involved in JAP have a better chance of securing employment after leaving school than those not involved (Hill *ibid.*). However, a tracer study of the employment patterns of Junior Achievers would need to be done to substantiate this claim.

Work Study Programmes

Grenada

The Bernadette Bailey Secondary School established in 1980 is the only school in Grenada which approximates to a Comprehensive model. It offers a balanced programme of academic, creative arts and technical subjects, all of which are compulsory for the first three years. The technical programme includes Agricultural Science, Home Economics, Industrial Arts, Needlecraft and Health

Education. Other main features are that the students are involved in the day-to-day running of the school, and agriculture is given important emphasis in the curriculum. Students in the school, for example, work on farms during the vacation period. Although we are told that work-study is the guiding principle of the school (Brizan 1983) how this is implemented in practice is not evident. No evaluation of the programme has been reported.

Jamaica: West Indies College

The work-study concept has a long history in Jamaican education. It was initiated in 1917 at the West Indies College (WIC) a Seventh Day Adventist Institution whose philosophy is that work, study and religion are the essentials for nurturing the body, mind, and spirit of the whole man. For its humble beginnings as the West Indies Training School with only 27 students, WIC has grown from strength to strength till today it constitutes a complex occupying some 200 acres of land and consisting of a primary school, a high school and a college run in the manner of a liberal arts college in the American tradition.

The work-study programme at WIC takes the form of High School students doing academic studies between 7.30 a.m. and 12.30 p.m. during which time the College students man the industries. Between 12.45 p.m. and 5.00 p.m. the High School students do their work duties while the College students do academic studies. Work is assigned in the service departments (i.e. cafeteria, laundry, maintenance), in the administrative offices of the College, on the farm or in the industries. The latter comprise College wood products, the College store, a printing press, a sheet metal shop, and Westico, which makes baked products, canned and processed foods.

The objective of self-reliance has been achieved to a marked extent by WIC. The institution is able to meet 93% of its total expenses largely through sale of products from its farm and industries as well as from school fees which students earn through their involvement in the work programme. The remaining 7% is met by WIC's Board of Management.

Top administration at WIC assess the work-study programme a success. Past students also attest to the fact that the work programme has had a marked effect on their lives in that it has enabled them to pay for an education which otherwise they would not have benefited from (Jennings-Wray 1983). However, no systematic study has been done of the process, the learning outcomes or impact of the programme.

Jamaica: Knox College

A measure of the impact of WIC's work-study programme is the fact that it inspired the Reverend Dr Lewis Davidson who founded Knox College (KC) in 1947. Among KC's major aims were that of emphasizing independent study on the part of the students as a route to self-reliance and "to train students to serve without servility; to work without contempt for work and workers" (Ministry of Education, Jamaica 1971). This was necessary to counteract the stigma attached to manual work and workers which many students attending KC had. In its early days, KC was an elite institution, a fee-paying, boarding High School some of whose pupils were children of the well-to-do from countries as far afield as Venezuela, Haiti, the U.K., and U.S.A.

The most innovative aspect of KC's curriculum was its work-study concept which caused it to be regarded in the late 1960's in Jamaica as "a centre of educational innovation" (A Philosophy and a Method, Knox College publication 1968). The work-study concept took two forms: the creation of what was termed a "work-study milieu", and involvement in the school's work programme. The major thrust behind the work-study milieu was the development in students of the skills of inquiry which made them independent of teachers. A Learning Centre established in 1969 helped to further this objective. Apart from having reading machines, it was also equipped with slide projectors, cassette tapes, film cassettes as well as other resource materials. In addition, students had the use of original multi-level self-instructional materials developed by specialist teachers at the school.

KC's cooperative work programme required students to spend between 8-15 hours per week working on the farm or in work centres. These were centres for the production of food, food processing, food preparation and serving as well as centres for laundry and maintenance and construction. Thirty acres of KC's almost 100 acres of land was intensively developed for farming and livestock rearing. A small food processing plant was established with facilities for slaughtering livestock, processing milk, making baked products as well as for the general preparation of vegetables and fruits for storing.

Although the investigation has not been able to uncover details of the learning outcomes brought about by the innovations at KC, undoubtedly in Knox's heyday during the 1960's and early 1970's, some excellent results were achieved. One hundred per cent passes in Mathematics at GCE 'O' level, for example, were recorded (Jennings-Wray 1983). Whether the work programme had any effect on eradicating contempt for work and workers, however, is questionable because a main reason for the eventual collapse of the programme was resistance of parents to their children having to work on the farm and doing the sorts of duties which maids and gardeners were employed to do in their houses. However, the construction and maintenance work centre had far-reaching impact on the school community and the Jamaican society at large. Classrooms, office furniture, staff housing and other buildings are still today monuments to the achievements of students who worked in this centre. Perhaps the most outstanding achievement was the construction of low-cost housing which benefited both the farmers in the Spaldings Community where KC is located and the National Housing Corporation of Jamaica, a government-owned company which develops housing schemes for low and middle income families.

Jamaica: The Jose Marti Secondary School (JMSS)

When the Democratic Socialist Government of Jamaica was looking for an educational model that would enable it to shift the emphasis away from the academic/classical emphasis bequeathed by colonialism to a system better geared to the needs of a developing economy (Manley 1982, p.49), it turned to Cuba, with whom diplomatic relations had been established in 1975. A delegation sent to Cuba that year was most impressed by the basic secondary schools in the countryside which combined a polytechnical and work-related general education. These schools provided the model for the JMSS.

The JMSS was built by a group of Cubans working alongside Jamaicans and handed over almost fully equipped to the Jamaican Government in 1976 as a gift from

the people of Cuba. The JMSS has the same design as the Cuban basic secondary schools in the countryside described by Morales and Arango (1979). Between 1977-84, the school was a fully residential institution accommodating some 560 students with two dormitory facilities for staff. The school farm is spread over 150 acres with piggery, dairy, poultry and agronomy units which are all managed by the students with the help of supervisory staff.

The JMSS curriculum, which combines work on the farm with academic studies and technical-vocational courses, enshrines the former Democratic Socialist Government (DSG) commitment to an "increasing emphasis upon work/study methods in teaching, so as to develop an understanding of the working environment which each child was preparing to enter" (Manley 1982 p.49). Agriculture is compulsory for students in the school. The students work in shifts. One shift does academic studies between 7.15 a.m.-12.05 p.m., working on the farm between 2.00 - 4.00 p.m., while the other does farm work between 7.15 a.m. - 10.00 a.m. and academic studies from 2.00 - 5.00 p.m. "Work" includes all the cooking, cleaning and household chores as well as the general maintenance of the school building and compound which both boys and girls take turns in doing.

The main objectives of the JMSS have been identified as follows:

- (i) to maintain a balance between academic and practical activities in students' growth and development
- (ii) preparation for the world of work
- (iii) self-sufficiency for students at the school
- (iv) the production of skilled agricultural workers (Hutchinson 1984).

A comparison of the results of JMSS students who took the Secondary School Certificate with similar results of students in New Secondary Schools in the neighbourhood of the JMSS but which do not pursue a work-study curriculum showed that the performance of the JMSS students in Agricultural Science and Food and Nutrition was superior to that of students in the neighbourhood schools (Hutchinson 1984). Hutchinson also found that out of a random sample of JMSS graduates in 1977-83, only 12 were actually employed at the time of the investigation, although 25 of them had worked for some time since graduation. Eighty six per cent of the graduates reported that in their view the JMSS had prepared them for the world of work; the remaining 14% stating that they had found it necessary to acquire further skills training.

Self-sufficiency is an objective that the JMSS has achieved. With the minimum of government aid, the JMSS has managed to produce its own farm equipment, construct a Home Economics Unit, and pay for casual farm labour when necessary. The scale of farm products has made these things possible and the school canteen is also amply supplied with meat, vegetables and ground provisions from the farm (Jennings-Wray 1983).

Where the JMSS seems to have fallen short is with respect to attracting graduates into careers in agriculture. Of the 25 graduates who had been employed since leaving the school, eight of them had taken up jobs in the clerical and accounting fields, six had entered teaching, with only three going into farming (Hutchinson 1984). The others had taken up such jobs as sales, woodwork, cooking and storekeeping. Again, when graduates were asked

about their future career prospects, 18 expressed a desire to do accounting, seven nursing, six teaching, five medicine and four agriculture.

Overview

Concerted efforts have been made to link education with productive work at the secondary level of Commonwealth Caribbean educational systems. These efforts have been underscored since 1975 with the introduction of Caribbean Examinations Council (CXC) Secondary Education Certificates in technical-vocational subjects designed to enhance the economic development of the region by giving school leavers employable skills. A number of these subjects have a work experience component (e.g. Industrial Arts, Agricultural Science, Business Education). Students have also made excellent products such as furniture items, but the programmes have not been developed to a sufficient extent to encourage the introduction of a marketing policy, although it is acknowledged that the quality of the products is good enough for this. Evaluations need to be done of CXC technical-vocational subjects in order to gain insight into their learning outcomes, processes and impact. Evaluation of EPW programmes at the secondary level are sadly lacking. Even where there is some information available on the learning outcomes of these programmes, for example, it is questionable whether these can be attributed entirely to their exposure to a work-study programme centred on agriculture. Students who are selected to go to the JMSS are usually intellectually superior to their colleagues in other New Secondary Schools.

On the question of impact, with the exception of the limited research on the Work Experience Programme in Jamaica and the Jose Marti Secondary School, we know very little about how EPW programmes assist youths to find employment. One of the difficulties that give rise to this is the lack of liaison between planners at the national level who forecast the nation's manpower needs and the people responsible for training in the technical-vocational fields. One writer in fact says:

It is difficult to effect any long-term planning for skill needs in Dominica because the relevant information in this area is hardly available even from potential employers... (Alexander 1984, p.31).

With respect to St Kitts/Nevis it has also been said that national policy on training and job opportunities has been too fragmented (Halliday 1984). Braithwaite (1984) describes the attempts at introducing EPW programmes in St Lucia as "sporadic" and attributes the lack of sustained effort to "lack of continuity in policy and leadership, insufficient supervisory personnel, weak administration, ... poorly conceived plans ... all tended to undermine the already poorly structured attempts at school level and eventually led to a low rate of implementation. (p.34).

Negative attitudes towards skill and vocational training as well as deep-seated value systems that reject any work that is physical or manual lie at the heart of difficulties in putting technical-vocational education on par with the academic type of education offered by traditional high schools in Jamaica (Jennings-Wray 1983). Technical High Schools and New Secondary Schools in Jamaica which should be offering practically oriented curricula geared at giving graduates readily employable skills, have increasingly made

their curricula more academic on the presumption of winning respectability in the eyes of society. Moreover, many New Secondary School students are leaving school with inadequate basic knowledge of Mathematics, Science, Language and Communication skills. The Unesco (1983) report states:

Instead of hiring holders of a secondary level school certificate which certifies only normal acquaintance with rudimentary vocational and industrial arts skills, employers prefer to hire school leavers who have sound knowledge in basic subjects such as English, Mathematics and Science, and to see skill training undertaken in a way suitable to the specific needs of the industry. Employers are worried that the educational system is not performing adequately in its proper area and that the education authorities, instead of concentrating all their efforts on rapidly eliminating the major weaknesses of the system, continue to get involved in vocational skills training. (p.15)

The Report comes out in favour of Secondary Schools concentrating first and foremost on giving students a general education in which the school leaver "has reached genuine secondary education performance levels in language, mathematics and the sciences ... vocational education and training must succeed general education and must be considered separate from it and in its own right. Mixing both is detrimental to both." (p.22).

It has to be acknowledged, however, that secondary schools in Commonwealth Caribbean territories that have attempted to implement programmes linking general education with productive work have experienced problems which have militated against the achievement of their objectives. For example, buildings have been inadequately maintained, workshop areas for industrial arts programmes have suffered from a lack of space, poor maintenance of machines and equipment, inadequate supply of materials. The Unesco reports have unearthed all these problems in all territories evaluated. Another very serious difficulty is the inability of schools to obtain staff with relevant practical experience in vocational areas of study. The lure of better salaries and working conditions in industry has often robbed the school system of the services of teachers of technical subjects. The shortage of adequately qualified staff has contributed in measure to the fact that technical-vocational offering in schools invariably is limited to Woodwork, Technical Drawing and Home Economics.

The lag between what is taught in Secondary Schools with EPW programmes and what is actually practised in industry constitutes another problem. Clearly, if the schools are too impoverished to afford the modern machinery and equipment available in industry, then it is difficult to train the students in a way that would make them attractive to industry. The short duration of the WEP in some territories militates against students acquiring the skills necessary to use complex equipment and machinery to which they were never exposed in vocational training. Speaking of Jamaica, the Unesco (1983) report states:

The Work Experience Programme ... is of minimal training value, if any at all ... The time is far too short to allow any work experience to be gained or to create positive attitudes towards work. The apparent success of this programme is only statistical, not real. (p. 214)

Yet again it has to be acknowledged that the WEP in Jamaica, as elsewhere, from the very beginning lacked the infrastructural requirements needed for the programme to function effectively. For example, when the Grade 10-11 programme was initiated in 1974, many of the New Secondary Schools were not given any additional equipment, machinery, etc. for the vocational programmes they were required to implement. They had to rely on such equipment as they had received from the World Bank in the 1960's. Furthermore, in the absence of good manpower planning, and employment-generating strategies, one can hardly be surprised if many students cannot get work experience in their area of vocational training, or fail to get employment when they leave school. There is clearly a need for those responsible for initiating and implementing EPW programmes to work in collaborating with manpower planners at the national level in order to enable an articulation of the skills required on the job with the skills learnt in pre-vocational or vocational studies.

In terms of achieving the objective of self-employment, this has proved very difficult to attain, often because of the initial capital needed. Self-employment is an important aim of EPW programmes (e.g. at the Jose Marti Secondary School). But setting up a viable farm on one's own is easier said than done in a country like Jamaica which has "80% of its land surface in slopes too steep for modern agricultural implements except after huge investment in terracing" (Manley 1982 p. 16). This suggests the need for loan schemes (with low interest rates) or self-start funds initiated by government to assist young people who wish to establish their own employment projects.

EPW programmes in secondary schools have persistently been beset by all kinds of handicaps that have militated against their effective implementation. The Bernadette Bailey Secondary School in Grenada was judged by UNESCO evaluators as inadequately equipped to teach any specialization because of its shortage of qualified staff (UNESCO 1982). Praedial larceny has handicapped the agricultural programme at the Jose Marti Secondary School in Jamaica but it has not proved to be such a bugbear as its Cuban connection which is responsible in some measure for its coming under the suspicion of the Labour Government which broke diplomatic relations with Cuba as soon as it came to power in the 1980 election, having defeated the Democratic Socialist Government that established the JMSS. One of the major barriers to introducing new ideas into the educational systems of Third World countries cited by Havelock and Huberman (1979) is a political one related to problems such as lack of interest by political leaders and changing governments which make it more difficult to maintain consistent policy and follow plans. This is true of the JMSS. The work study programme was finally disrupted in the 1985-86 school year after the Labour Government insisted it was not meeting the community's needs. The school is gradually being converted into a non-residential Comprehensive High School which can take in a larger number of students from the neighbouring community. This does not mean, however, that the work-study programme at the JMSS has failed in its objectives (Jennings-Wray 1983; Hutchinson 1984). The re-orientation of the goals of the school is a manifestation of a new ordering of priorities in relation to the ideology of a new government.

Another question that Commonwealth Caribbean territories which are seriously considering implementing EPW programmes in secondary schools curricula have to consider is how to tackle negative attitudes to practical/manual work in the society at large which spills over to the practical-vocational curricula in schools being regarded as inferior when compared with the classical academic

curricula of traditional High Schools (Jennings-Wray et al 1982). Invariably, there is an egalitarian ideal behind EPW programmes. In Jamaica, for example, the policy of incorporating a WEP into the Grade 10-11 programme of New Secondary Schools was seen as an attempt to make comparable with the High School graduates the chances of the students of these schools getting jobs on graduation. In some cases this indeed has been so, but for the most part the qualifications of the High School leaver are viewed more favourably by employers. Over the years, New Secondary Schools in Jamaica have come to be looked upon as second class institutions and the students therein have acquired a lower status image. One has to bear in mind that New Secondary Schools have a lower social class intake whereas the High Schools take children from largely upper middle class homes (Miller 1976). The situation is not peculiar to the Caribbean. Foster (1965) observed that vocational training courses in Ghana were made up of students who had been rejected from the more selective academic programmes, while Wilms (1983) cites research that shows that in the USA, vocational students are most often from low social economic status and are perceived as having lower levels of ability than their academic counterparts.

The question of values and deep-seated attitudes also looms large in the issue of pre-vocational provisions for girls. All Caribbean Governments favour an egalitarian ideal wherein opportunities are given to boys and girls equally. None have it as policy that girls should be encouraged to do certain types of subjects and boys others. Yet deep-seated attitudes prevail. Take, for example, this statement of a former Prime Minister of Jamaica who was perhaps the most foremost exponent of egalitarianism in the 1970's:

Every primary school should have its model car and model tractor which the older boys strip down and reassemble; and its dress shops where girls master the rudiments of the garment industry. (Manley 1974, p. 153-4)

Sex role bias is not peculiar to Jamaica or any other territory in the Caribbean. Tackling these deep-seated attitudes is the real problem - not so much the unavailability of pre-vocational choices for girls.

In terms of whether the programmes discussed in the last two chapters represent a genuine attempt at linking education with productive work, it is difficult to make a fair judgement in the absence of systematic evaluations of these programmes. In relation to the class for barbering at the Basseterre Junior High School (St. Kitts), for example, one wonders what the education component consists of. Similarly, further investigation would need to show the nature of the pedagogical component of Junior Achievement Programmes. Above all, there is a need for process studies of EPW programmes in order to ascertain the actual experiences, interactions etc. that occur in the day-to-day operation of these programmes. Such studies could well assist in efforts to articulate the skills taught in vocational training with those actually needed at the work place.

Summary

1. Work Experience Programmes (WEP) are widely used in secondary schools throughout the Commonwealth Caribbean in the preparation of youths for the world of work.

2. The WEP invariably takes the form of students being attached to a work situation (e.g. in business, industry) usually for a period of about four weeks but which can extend to six months in the case of Guyana, during which time they come under the supervision of work station managers and work experience teachers.
3. Objectives of the WEP tend to be rather ambitious. They include providing a smooth transition from school to work, inculcating habits and attitudes conducive to the work place, and providing benefits for the employer. Evaluations of these programmes, however, are limited.
4. The impact of the WEP is limited by such difficulties as :
 - students unable to practise skills learned in vocational subjects in actual work situations
 - some employers unwilling to accept students on work experience
 - lack of employment opportunities
 - students being required to do the menial tasks which fellow workers at the work place spurn
 - a general unwillingness on the part of employers to accept as adequate qualification for a job the kind of certification given by schools that have a practical-vocationally oriented curriculum (e.g. Secondary School Certificate of New Secondary school graduates in Jamaica)
 - lack of proper supervision at the work place
 - financial embarrassment on the part of students
 - transportation difficulties encountered in getting to the work place (especially in rural areas)
 - insufficient work places in rural areas
 - technological lag between equipment and machinery used in vocational training and modern equipment and machinery in industry.
5. EPW programmes in some schools (e.g. St. Lucy Secondary, Barbados) have been initiated through a close relationship with a nearby factory which gives skill training to final year students on a regular basis.
6. Although there has been no formal evaluation of the Junior Achievement Programmes, there is some evidence that they have achieved a measure of success (e.g. in terms of profits recorded by companies in Jamaica).
7. A work-study programme was first set up in the West Indies College, Jamaica in 1917. It later influenced the institution of a similar programme at Knox College in 1947. The work-study programme introduced in 1977 at the Jose Marti school in Jamaica was modelled on Cuban

schools in the countryside. Grenada, under the regime of Maurice Bishop, also experimented with the work-study concept.

8. The eventual demise of outstanding work-study programmes has resulted from :

- demand for mass education resulting in government pressure to increase school population
- negative attitudes towards manual/practical work
- changing administration (loss of influential leadership)
- change of government and re-ordering of priorities in keeping with new political ideology.

9. The advent of CXC Technical-Vocational subjects has ushered in possible directions that the formal system could take in linking education with productive work in the future. Their emphasis currently is more on the educative than the productive, but the introduction of good marketing strategies could assist somewhat in tackling the economic difficulties now facing many secondary schools.

10. For EPW programmes to function in secondary schools more effectively, main areas of need are:

- liaison between manpower planning at the national level and those responsible for EPW programmes in the school system
- improved communication between potential employers and schools
- assistance from government (and/or private enterprise) for example in the form of loans to assist with initial capital outlay of school leavers wanting to establish self employment projects
- improvement in the general education of secondary school students, especially in the areas of Mathematics, Science and Language
- workshops with sufficient work space, adequately maintained with supplies of materials, machines and other equipment
- improved salary and work conditions in schools to attract instructors of high quality for the technical-vocational areas
- increased variety of technical-vocational offerings
- better articulation of skills required on the job with skills learnt in pre-vocational/vocational training.

CHAPTER FIVE

EPW PROGRAMMES AT THE TERTIARY LEVEL

Antigua

In the Commonwealth Caribbean, provision for linking education with productive work at the tertiary level is available mainly in Technical Colleges, Vocational Institutes, Community Colleges and Colleges of Agriculture (see Table 5.1). Such provision is more developed in certain territories (e.g. Guyana, Jamaica, Barbados, Belize) than in others. The Antigua State College (ASC), for example, is the only tertiary institution in Antigua and Barbuda in which work and training are closely aligned. The ASC was formed in 1978 with the merger of the Antigua Technical College and the Teachers' College. The ASC offers programmes in carpentry, masonry, plumbing, motor mechanics, basic engineering, electrical installation, refrigeration, secretarial and commercial studies. A Hotel and Catering programme used to be offered at the ASC but it was taken over by the Ministry of Economic Development and Tourism in 1981. The new Socio-Economic Development Plan for Antigua and Barbuda (1981-85) places great emphasis on the creation of jobs to alleviate the problem of unemployment by expanding the industrial productive sector of the economy. The plan also stresses the need for an increased supply of skilled labour to support economic activity. To this end, an expansion and upgrading of traditional programmes and institutions is envisaged as well as "the adoption of creative practices in both formal and non-formal settings in which work and training are closely aligned". (Ministry of Education, Culture and Youth Affairs, Antigua 1983 p.1). More specifically, there are plans to establish a vocational centre for lower level training in craft, industrial arts and home economics, and the technical offerings of the ASC are to be expanded to provide an adequately equipped technical teaching force up to the junior secondary level (Ministry of Education, Antigua 1983). The latter document reports that graduates of technical programmes at the ASC have so far had no difficulty in obtaining jobs. The co-operation of industry both in placement and training has also been described as commendable.

Bahamas

The College of the Bahamas (COB) is the only fully-fledged tertiary level institution in the Bahamas. It offers academic and technical-vocational courses to both full-time and part-time students. "Making productive work, where possible, an essential part of the training provided", and "encouraging positive attitudes towards vocational learning schemes and manual skills", "involving the continued co-operation and support of industry, other Government Ministries and Departments and Business in various facets of the activities of the Technical Division of the College" are among the aims of the Technical Division of COB (Technical Education in the Bahamas, undated document). The Technical Division offers courses leading to an Associate Degree in industrial technology. It also offers a Diploma programme in industrial technology and a pre-technology programme. The latter is a one-year programme, successful completion of which allows entry to the Associate Degree or Diploma programme. The Associate Degree programme normally requires the equivalent of two years of full-time college-level work and is designed "to provide a high level qualification for entry into a career in industry, education ..." (Technical Education document). The Diploma

**Table 5.1: Institutions with EPW Programmes at the Tertiary Level
in the Commonwealth Caribbean**

Country	Institution
Antigua & Barbuda	Antigua State College
Bahamas	College of The Bahamas
Barbados	Samuel Jackman Prescod Polytechnic The Barbados Community College
Belize	Belize Technical College Belize College of Arts, Science & Technology (BELCAST)
Dominica	The Clifton Dupigny Technical College
Grenada	The Grenada Technical and Vocational Institute Mirabeau Agricultural Training School
Guyana	Georgetown Technical Institute New Amsterdam Technical Institute Guyana Industrial Training Centre Frederick's/Carnegie Schools of Home Economics Guyana School of Agriculture
Jamaica	College of Arts, Science and Technology (C.A.S.T.) Jamaica College of Agriculture Community Colleges West Indies College
Montserrat	Montserrat Technical College
St. Kitts-Nevis	St. Kitts-Nevis Technical College
St. Lucia	Morne Fortune Technical College St. Lucia College of Agriculture
St. Vincent	St. Vincent Technical College
Trinidad and Tobago	John S. Donaldson Technical Institute San Fernando Technical Institute

programme is less academic and more technologically specialized and job-related than the Associate Degree. It is essentially designed for a technician level of preparation.

Barbados

The new complex of the Samuel Jackman Prescod Polytechnic (SJPP) in Barbados was constructed with the help of a loan from the Inter-American Development Bank. The SJPP has facilities for training in a wide variety of crafts and can accommodate approximately 3,000 students. It offers courses in auto mechanics, agriculture, engineering, electrical installation, electronics, refrigeration and air conditioning, plumbing, carpentry and joinery, masonry, shoe repair, sewing machine operation, tailoring, building/engineering, drawing, painting and decorating, printing, cosmetology, home economics and commercial studies. Students who do building engineering and electrical installation do a four-week work experience programme during their second year of training. They may be paid a stipend which varies according to the firm to which they are attached. Students taking agriculture do three one-month periods of attachment to various agricultural enterprises/farms. Instructors and supervisors at the workplace carry out on-the-job assessments. The SJPP prepares all students for the Polytechnic Certificate but the majority of students also take the City and Guilds of London Institute Craft Certificate.

The Barbados Community College (Division of Technology) offers technician-level courses in building and civil engineering, mechanical and electrical engineering, land surveying and a technical teachers course for teachers of industrial arts (run in collaboration with Erdiston Teachers College). The Division of Hospitality Studies trains personnel for the hotel and catering industries, offering courses in hotel catering and institutional management, food service and catering supervision, basic cookery and housekeeping, waitering and bartending procedures, front office sales and reception procedures. There are other divisions in Commerce and the Health Sciences. In the Division of Hospitality studies all full-time students do 240 hours per annum of internship in the hotel industry. Students receive out-of-pocket expenses from the hotels. Students can do function catering (e.g. wedding receptions, balls, cocktail parties) during the evenings and at week-ends. The Division is equipped with a training restaurant and bar and production kitchen. This restaurant operates a luncheon service for the public for six months of the academic year. Revenue is returned to the Ministry of Education. During the advanced stages of their training, students are given key roles in the operation of the restaurant.

Belize

The Belize Technical College (BTC) combines a Technical High School and a Technical College. It offers full and part-time courses at both the Craft and Technician levels in building, engineering, business, science and mathematics. Craft-level courses include carpentry and joinery, plumbing, masonry, electrical, mechanical; automotive engineering and commercial. All these courses are of two years duration and students accepted into these courses must have completed three or more years of secondary school. The level of qualification is the City and Guilds of London Institute in Basic Building Trades and the Basic Engineering Trades. In Commercial studies, it is the Royal Society of Arts Examination (Stages I and II) and the Caribbean Examinations Council (CXC). BELCAST is an umbrella institution which will eventually be responsible for the administration of all tertiary level

educational programmes in Belize, including those of the Belize Teachers' College, the Belize School of Nursing and the Belize School of Agriculture in addition to other technological programmes introduced by BELCAST itself (Bennett undated document). Among the programmes offered by BELCAST are three-year courses in veterinary technician, and secondary teacher education (Business Studies and Technical Vocational Education).

Jamaica

CAST (Jamaica) "aims to meet the personnel needs of Industry, Commerce and Government by training new recruits and upgrading the skills of existing employees in these sectors of the country" (undated CAST document p.1). CAST offers courses in building, commerce, computing, engineering, institutional management and food science, science and technical teacher education. These courses are full and part-time and they lead to certificate and diploma qualifications.

Work-study operates at various levels at CAST. Part-time and evening students who attend CAST do courses which in a real sense are "work-study" because they are already involved in working situations. In addition, varying periods of work experience are structured into a number of courses. For example, Institutional Management and Food Science students doing dietetics and nutrition are placed in hospitals, food service enterprises, hotels, etc. Technical teachers, in addition to doing a period of teaching practice, have a short period of appropriate commercial or industrial experience.

Perhaps the best example of an attempt to link education with productive work at CAST is to be found in the Engineering Department. In 1982, this department started an Industrial Training Scheme which involves students doing on-the-job training for a period of up to three months between July and September at various work stations, the length of time depending on what the factory or company can accommodate. Places where students regularly do work experience include the Jamaica Telephone Company, the Jamaica Public Service Company, the Bauxite companies and Caribbean Casting. A few students have also been employed at the CAST workshops where they have made grillwork and garden tools. The quality of work of these students has been of such high standard that it is hoped in the near future to market their products locally (Jennings-Wray 1983).

Supervision on the job is done mainly by on-site trainers, with occasional visits from CAST's Engineering staff members. Progress reports on the students are sent by the firms to the College. The College advises the firms to pay the students at least \$75.00 per week. Some firms, however, are reluctant to pay anything at all. A major problem encountered by the Industrial Training Scheme is competition for places for on-the-job training from trainees in the Human Employment and Resource Training (HEART) programme. Because the latter is a government backed programme, firms are more willing to accept the HEART trainees since they are given tax incentives. CAST's Industrial Training Scheme, however, has to appeal to the voluntary participation of the firms.

Guyana

The Georgetown and New Amsterdam Technical Institutes offer craft level courses in carpentry, plumbing, welding and block-laying, and technician level courses in mechanical engineering, electrical, building and civil engineering,

surveying and telecommunications. These courses are of a theoretical nature and the students are expected to gain practical experience by serving on attachments with industrial establishments. The Guyana Industrial Training Centre offers accelerated training courses of forty-eight weeks duration in carpentry, electricity, agriculture, mechanic, masonry, welding, and plumbing. These courses are highly practical in nature and are geared to getting trainees to attain a high standard of competence at the craft level.

The Frederick's and Carnegie Schools of Home Economics offer day time courses in Household Management and Catering. Day time students are prepared for the London GCE 'O' level examination in Food, Nutrition and Needlecraft. Evening classes cater for adults, and a variety of Home Management and Craft-skills are taught. Full-time courses are usually for two years while evening courses are from three to six months leading to the Diploma or Certificate level.

The Guyana School of Agriculture offers courses leading to either a Certificate or a Diploma in Education. Students study science subjects, economics and practical aspects of crop farming and animal husbandry. On graduation, students are equipped to be agriculture teachers, farmers, extension workers, and field assistants. They are also qualified to proceed to degree programmes at universities.

St. Lucia

The St. Lucia College of Agriculture runs a one-year certificate course for intending farmers, a two-year diploma course for agricultural technicians and, since 1982, a three-year advanced diploma course for future agronomists. During the first year of the latter two courses, practical and academic studies are given equal weighting. Students acquire basic agricultural knowledge and practical skills in forestry, crop production, animal production, animal health, farm business, farm machinery, agricultural science and farm practice. In the second year, students may specialize in forestry or general agriculture. In the course of training, students do extension work with farmers mainly in the Choiseul District. Agricultural aid personnel sponsored by the French Government (and known as the "French Mission") share their expertise with local farmers and supervise students doing extension work.

Grenada

The Mirabeau Agricultural Training School in Grenada was constructed in 1970, but did not become fully operative till about 1979. Its major aim is to train agricultural field officers and to form the nucleus of a young farmer population in Grenada (Brizan 1983). The courses tended to be highly theoretical and the UNESCO (1982) report commented that ... "it is not clear to what extent students are exposed to real farming problems prevailing in the immediate training. It is felt that no conscious effort has been made to take students out from the protective environment of the school and expose them to the actual farming situations the average farmer is confronted with" (p.43).

This problem has been redressed somewhat since 1982 when an extension service was introduced into the programme. This required students to visit selected farms once per week and do extension work with farmers. They are expected to familiarize themselves with the farmers' operations, discuss any problems with the tutors, and arrive at solutions collectively. Reports are made of each visit. Over the years, most of the graduates of this training school have entered some career in agriculture. Between 1970-1981, of 140 graduates only 21 entered careers unrelated to agriculture (Brizan 1983).

Dominica

Technical Colleges in the smaller territories (e.g. St. Lucia, St. Kitts-Nevis, Montserrat and Dominica) offer full and part-time courses of one or two years' duration in some or all of the following: building, engineering, commerce, hotel trades, technical teacher training. They suffer from similar problems. For example, courses offered at the Clifton Dupigny Technical College (established in 1972) tended to be very academic "and so did not enhance the employability of its graduates" (Alexander 1984 p. 16). After Hurricane David seriously damaged the island in 1979, it became necessary to restructure programme offerings "to equip students for the productive work so desired at this crucial period of re-construction" (Alexander *ibid*). Such changes were particularly necessary in courses in the Building and Electrical trades. A two-year full-time Building Construction Technicians Course (BCTC) was introduced in 1980. This course had an on-the-job component in which students were attached to local construction and architectural firms in both the public and private sectors during the vacation periods. So the students were restricted to the maintenance department of the main hospital and were engaged in the construction and repair of furniture, as well as the construction of new medical facilities in various parts of the island. Only seven students took part in the course when it was first offered, but all were employed on graduation. The introduction of the BCTC has been described as "a very successful attempt at linking education with productive work in Dominica" (Alexander *op. cit.* p. 17).

Alexander (*op. cit.*) also describes other successful programmes initiated at the Clifton Dupigny Technical College. For example, there was the Skills Training Programme for unemployed youths sponsored by the OAS and the Government of Dominica between 1980-82. The programme sought to equip these youths with basic skills for employment in the building and electrical trades. Eighty youths were trained all together and the programme succeeded in helping them to secure employment. Between August 1983 and February 1984, the Rotary Club of Dominica and CIDA, in collaboration with the Government of Dominica, sponsored three-month full and part-time courses at the Technical College in plumbing, small engine repairs, refrigeration and air conditioning, and building construction. Instructors came from the Humber College, Canada. These programmes had a heavy practical bias. Members of the community brought their refrigerators to the College to be repaired, free of charge. Students also did repairs in the homes of people whose goods could not be transported to the college.

Community Colleges

Community Colleges offer day and evening courses which range from Business Administration, Secretarial, Accounting, Farm Management, Industrial and Engineering Technology, Auto Mechanics, Electrical Repairs and Public Health Nursing. A number of these courses involve students doing work experience for a period of at least one month. The Knox Community College in Jamaica, for example, has established a practice of placing students in work places where they are likely to obtain permanent employment on completion of their work experience programme. In addition, this Community College has a work programme which requires students to spend 40 hours between October and March of an academic year in an area (e.g. hospital, childrens' home, basic school) giving service to the community. Students' performance in this community work programme is assessed.

Overview

Lack of evaluation of EPW programmes is as serious a problem at the tertiary level as it is at the lower levels of the educational system. What assessments exist appear to be rather impressionistic. The need to have programmes at the tertiary level of the educational system which are designed to satisfy the manpower needs of the nation and to provide training for self-employment has been recognised by all Commonwealth Caribbean territories and these objectives have been promoted in technical colleges, agricultural colleges, various institutes and training centres. The cost of these programmes, however, have proven problematic. This is brought out repeatedly in the assessments of UNESCO teams. In an effort to tackle this problem, the UNESCO team recommended the following in Grenada:

Production education should be introduced at all levels of training as a strategy to supplement the cost of training by converting expensive raw material to productive use. Encouragement should be given to institutions to produce component parts for persons in the community who may not have the necessary equipment in order to maximise the use of machinery in the interest of national production. Manufacture of simple tools, servicing/repair of machinery should be undertaken as an important element of training for industry. (UNESCO 1982 p.x).

Attempts to link education/training with productive work at the tertiary level have suffered from other problems. One is the lack of liaison between those responsible for EPW programmes in training institutions and industry with the result that there is a weakness in the articulation of the skills required on the job and those taught in skill training programmes. With reference to the staff at the St. Kitts-Nevis Technical College, the UNESCO team advised that "the staff as a whole need to be more sensitive to the requirements of industry and commerce for well-trained, practically-oriented graduates" (UNESCO 1982 p.20). Through its National Training Board (NTB), however, Trinidad and Tobago seems to be promoting the liaison between industry and training institutions quite effectively. Trinidad and Tobago has, in fact, created a training system complementary to and parallel with the education system. The principal task of the NTB is to enable the country to produce its skilled labour in the required quantity, of the required quality when needed. The NTB directs, manages and administers the programmes of Technical/vocational education and training in institutions directly under the control of the Ministry of Education. (See Fig. 5.1).

The shortage of personnel qualified to teach courses at the technical colleges is another difficulty experienced by most Commonwealth Caribbean territories. The principal of the Montserrat Technical College, for example, reported that courses in masonry and plumbing could not be offered because of the inability to recruit qualified staff (Payne 1984). The unavailability of qualified managerial and technical staff to carry out the programmes is pointed up as "critical issue" by the UNESCO team evaluating agricultural education in Grenada (UNESCO 1982 p.x), while in Antigua and Barbuda because there are no formal training courses (apart from in-service workshops) for technical teachers at the junior secondary level and above, "there is, as a result, a serious chronic shortage of qualified teaching personnel and a heavy reliance on technical teachers from abroad recruited for the most part through external aid agencies" (Ministry of Education, Antigua 1983 p. 3).

FUNCTIONS OF THE NATIONAL TRAINING BOARD OF TRINIDAD AND TOBAGO

MINISTRY OF EDUCATION

EDUCATIONAL SYSTEM FOR INDIVIDUAL CITIZENSHIP
• GENERAL EDUCATION • INDUSTRIAL ARTS HOME SCIENCES COMMERCIAL SUBJECTS • TECHNICAL/VOCATIONAL EDUCATION

NATIONAL TRAINING SYSTEM

TRAINING FOR OCCUPATIONAL INSTITUTIONAL	SYSTEM COMPETENCE IN-PLANT (CO-ORDINATED TRAINING IN INDUSTRY)
MINISTRY OF EDUCATION AND COMMUNITY DEVELOPMENT MINISTRY OF AGRICULTURE MINISTRY OF HEALTH MINISTRY OF INDUSTRY AND COMMERCE MINISTRY OF TRANSPORT AND COMMUNICATION MINISTRY OF WORKS UNIVERSITY PROFESSIONAL BODIES OTHER ORGANIZATIONS	• APPRENTICESHIP • TRAINEE CONTRACTS • ACCELERATED TRAINING • UPGRADING • UPDATING • RETRAINING • TRAINING FOR PROMOTION • TRAINING FOR TRAINERS (INSTRUCTORS) • TRAINING FOR TRAINING OFFICERS

MINISTRY OF FINANCE

PLANS NATIONAL,
SOCIAL AND ECONOMIC
DEVELOPMENT

NATIONAL TRAINING BOARD

- ESTABLISHES AND MONITORS
 - (a) TRAINING STANDARDS
 - (b) OCCUPATIONAL TESTING
 - (c) OCCUPATIONAL CERTIFICATION
- CO-ORDINATES EDUCATION AND
TRAINING SYSTEMS
- MONITORS MANPOWER DEMAND AND
SUPPLY
- GATHERS OCCUPATION INFORMATION
- EVALUATES THE TRAINING SYSTEM

MINISTRY OF LABOUR

MONITORS CONDITIONS
OF WORK

OPERATES EMPLOYMENT
EXCHANGE

(Source: Position Paper of Trinidad & Tobago
on facilities for Technical Education and
Training for meeting of Task Force on Technical/
Vocational Education and Training in the
Caribbean, Barbados, September 1985)

A third problem lies in recruiting students with a suitable background for training courses at the tertiary level. This problem is experienced mainly by smaller territories (e.g. Antigua, Montserrat) where provisions for technical education and training have only relatively recently been put in place at the secondary level. Antigua reports problems especially in the recruitment of students with the academic background for higher level technical courses at the Antigua State College (Ministry of Education, Antigua 1983), while in relation to the St. Kitts-Nevis Technical College, the UNESCO team reported:

Complaints are common about the level of education of students willing to enter the College, particularly those wishing to be trained at the craft level. All staff members feel that prospective candidates for entry to the College should have a better basic education, particularly in the industrial arts. (UNESCO 1982 p.20).

The situation seems more positive in Belize, however. The Acting Chief Education Officer (Bennett undated document) states that the Belize Technical College has the staff, workshops and the equipment to perform its functions. Moreover, most of its teachers in the practical subjects have had previous private sector experience. In addition, although programmes in secondary schools in Belize suffer the ills of a divorce from the world of work, at BELCAST the quality of the programme is "high both in terms of their institutional offerings and in their relevance to the manpower needs of the country" (Bennett *ibid.* p.w.). The situation in Belize merits further investigation. Perhaps from it there is much that other Commonwealth Caribbean territories may learn.

Summary

1. In the Commonwealth Caribbean, Technical Colleges, Vocational Institutes, Community Colleges and Colleges of Agriculture have programmes designed to link education with productive work.
2. The College of the Bahamas offers training both at the degree and diploma levels in Industrial Technology.
3. The Samuel Jackman Prescod Polytechnic in Barbados offers training in such areas as building, engineering, electrical installation, masonry and commercial studies. Most programmes have a work experience component.
4. Students in the Division of Hospitality studies in the Barbados Community College gain work experience in the hotel industry through the management and operation of their own training restaurant which is open to the public for six months of the academic year.
5. The College of Arts, Science and Technology in Jamaica offers courses in building, commerce, computing, engineering, institutional management, food science, technical teacher education. Work experience is an integral part of these courses.

6. Programmes in Agricultural schools or colleges in Guyana, St. Lucia, Grenada, also have work experience as an integral part.
7. Successful programmes operated at the Clifton Dupigny Technical College in Dominica include:
 - the Building Construction Technicians course
 - the skills training programme for unemployed youths sponsored by the OAS and the Government of Dominica (1980-1982)
 - short term courses in plumbing, refrigeration, building construction, etc., sponsored by the Rotary Club, the Government of Dominica and CIDA (1983-4).
8. Trinidad and Tobago's National Training Board directs, manages and administers the programmes of technical/vocational education and training in institutions directly under the control of the Ministry of Education.
9. EPW programmes at the tertiary level suffer from a lack of evaluation. Existing programme assessments tend to be impressionistic.
10. Difficulties encountered by EPW programmes at the tertiary level include:
 - lack of liaison between industry and those responsible for EPW programmes in training institutions and industry
 - poor articulation between skills taught in training and those required on the job
 - shortage of instructors qualified to teach at the tertiary level
 - unavailability of qualified managerial and technical staff
 - heavy reliance on the recruitment of technical teachers from abroad
 - recruitment of students with suitable background for training courses at the tertiary level. This problem is especially acute in smaller territories which have only relatively recently introduced technical-vocational training in the curriculum of their secondary schools.

CHAPTER SIX

EPW PROGRAMMES IN THE NON-FORMAL EDUCATION SYSTEMS OF THE COMMONWEALTH CARIBBEAN

One of the criticisms levelled against the formal educational system is that its 'outputs' are, in general, inadequate, inappropriate in number and quality to make any meaningful contribution to the process of national development. For example, the UNESCO (1983) report to the government of Jamaica on the development of secondary education described the New Secondary School leavers as "ill-prepared for everything: working life, vocational training, further education" (p. 91). As pointed out in the previous chapter, the ability of tertiary level institutions to turn out quality graduates is being handicapped by such difficulties as inadequate funding for programmes, the unavailability of qualified managerial and technical teaching staff as well as deficiencies in the students' background for higher level training programmes in technical colleges. In view of the problems encountered by the formal educational system, increasingly attempts are being made to find alternative forms of education which might not only be cheaper but also secure greater provision for meeting the immediate economic needs and tackling the problems of a developing society. Non-formal education is seen by many today as a key to the achievement of such goals. It is seen, in the words of Ahmed (1983) as:

the potential for efficient use of scarce resources, expansion of educational services, promotion of equity in educational opportunity, and the enhancement of the relevance of education to the demands of socio-economic development (p. 36).

In the introductory chapter, 'non-formal education' was defined as 'any organised activity outside the established formal system', but what will become evident in the account that follows is that much non-formal educational activity takes place within formal education institutions (e.g. involving the use of school or college facilities). The purpose of this chapter, however, is not to give a comprehensive overview of all EPW programmes in the non-formal system, but rather to focus on those that are youth-employment oriented.

It is evident from Table 6.1 that most of these programmes are 'through-put' in nature i.e. they involve training within a separate institution for successive cohorts of youths who are responsible for finding their own employment after completion of training. Productive activity in these programmes is usually carried out in workshops in the institution in which training is done and this is complemented by practical experience in the world of work.

Throughput Training

Whereas in the formal educational system, maintaining a balance between academic and practical skills is a major objective of EPW programmes, in the non-formal system emphasis is more on the practical. The Antigua Caribbean Training Institute, however, is an interesting case. It was established in 1979 by a group of graduate teachers, other professionals and trained

TABLE 6.1: TYPOLOGY OF YOUTH EMPLOYMENT-ORIENTED PROGRAMMES IN
THE COMMONWEALTH CARIBBEAN NON-FORMAL EDUCATION SYSTEM

TYPOLOGY	NAME OF PROGRAMME	PRODUCTIVE ACTIVITY	COUNTRY
Through-put Training	Antigua Caribbean Training Institute	Workshops and Field Practice	Antigua
	Vocational Training Development Institute	"	Jamaica
	Skills Training Programme	"	Dominica
	Youth Development Programme (Agro Processing Training Scheme)	Workshop and on-the-job	St Lucia
	Junior Achievement Programme	Field Practice & Workshop	Jamaica/Barbados/Bahamas
	Babonneau's Women's Association	Workshop	St Lucia
	Women's Centre Programme	Workshop and Field Practice	Jamaica
	Trinidad & Tobago Hotel & Catering School	"	Trinidad & Tobago
	* Humber College Project	"	St Kitts-Nevis/ Antigua/Grenada
	Agriculture Training Centres	Work-study/field practice	Grenada
	Skills Training Programme	Workshop and field	Barbados
	Maritime Skills Training Programme	"	Antigua

TPOLOGY	NAME OF PROGRAMME	PRODUCTIVE ACTIVITY	COUNTRY
	Nelson's Dockyard Skills Training Self-Employment Generation Programme	Workshop and Production Unit	Antigua
	Youth Camps	Workshop and Field Practice	Trinidad & Tobago
	St David's Skill Training Centre	"	Grenada
	The Belize Vocational Training Centre	"	Belize
	The Belize School of Agriculture	"	Belize
	National 4-H Centre	"	Belize
	Belize Youth Development Centre	"	Belize
	HEART (Skills Training - Academies)	"	Jamaica
THROUGH-PUT ** & SETTLEMENT	Grenada National Institute of Handicraft	Workshop and Production Unit	Grenada
SEMI-STAY PUT TRAINING	HEART (School Leavers Programme)	On-the-job	Jamaica
	Young Farmers Development Programme	On-the-job	Barbados
	Linden Apprenticeship Training Scheme	Workshop and on-the-job	Guyana
	Pre-employment Training Programme	On-the-job	Antigua

**Graduates can also seek own employment

TYPOLGY	NAME OF PROGRAMME	PRODUCTIVE ACTIVITY	COUNTRY
	SERVOL Vocational Training Programme	On-the-job production unit	Trinidad & Tobago
	Ministry of Construction Apprenticeship Scheme at Public Works Department	On-the-job	Grenada
	Barbados Apprenticeship Programme	On-the-job & study	Barbados
	Barbados Institute of Chartered Accounts	On-the-job & study	Barbados
	Trade Centres	On-the-job & study	Trinidad & Tobago
	Ministry of Public Works & Communications	On-the-job	Antigua
STAY-PUT TRAINING	Non-Formal OAS-US-AID Skills Training Programme	On-the-job	St Lucia

technicians who wanted to counteract the academic bias in the formal school system and give students training in technical and vocational subjects for which there was little provision at the time. In addition to academic subjects, they offered courses ranging from 4-14 weeks in small farmer self-sufficiency, photography, graphic design and building construction technology. Courses in advanced building lasting 18 months were also offered (Knowles 1985). In the absence of an evaluation of these programmes it is not known the extent to which the balance between academic teaching and practical skills training has in fact been achieved.

The Vocational Training Development Institute (VTDI) in Jamaica offers training courses lasting ten months for vocational instructors. Areas of specialisation include carpentry/joinery, commercial studies, electrical installation, hotel/catering, garment making and welding. All vocational instructors must have industrial work experience before they can be considered for certification. Evaluation is by continuous assessment and final examinations. A trade certificate is issued to those participants who at the end of a required set of modules have passed the specified speed, competence and standard tests for that particular trade. The VTDI, however, is experiencing difficulty in getting its certification accepted by employers who are more accustomed to the quality and standards set by the City and Guilds and the Union of Lancashire and Cheshire Institute (Smalling 1980).

Dominica's Skill Training Programme (STP) has also had problems with certification. The STP was established by the Youth Division of the Ministry of Education (with assistance from US-AID and OAS) to train unemployed youths in skills needed by the community (e.g. small engine repairs, bricklaying, livestock production). The use of a modular approach to skills training was to ensure a more effective link with production since only the modules most suitable for the job situation were used. Employers, however, did not think that the three-month training given to these youths was adequate, particularly for the electrical and mechanical trades (Alexander 1984). Another problem with this programme was that only very basic skills could be taught since a number of the youths were school drop-outs whose motivation for further training was very low. Experiences with the Humber College (Canada) Project based at the St Kitts-Nevis Technical College were similar. This project sought to equip school leavers with employable skills through a flexible programme which enabled the students to do a 'through-put' form of training or to combine work in the afternoons with study at the College in the mornings. The Humber College organised similar programmes in Antigua and Grenada. These programmes were usually of three to six months duration and were offered in areas such as building construction, small gasoline engine repairs, electronic equipment repair and air-conditioning. Difficulties, however, were encountered with standards of training since students were recruited at different levels of technical-vocational competence (Halliday 1984).

Developing positive attitudes towards physical/manual work is a difficult objective to achieve in the non-formal system on account of the negative

1 Undated document on Grenada prepared for the CARICOM Task Force on Technical/Vocational Education and Training in the Caribbean for its meeting in Barbados, September 1985.

perceptions held by the programme's clientele. Parents and their children, for example, perceived the Skills Training Programme in Dominica as being only suitable for 'drop-outs' (Alexander 1984). A number of these EPW programmes in the non-formal system are, in fact, designed for drop-outs. For example, the St David's Skills Training Centre which is funded by the OAS and was opened in March 1985, offers two-year courses "for school-leavers and drop-outs"¹ in typing and office practice, auto-mechanics, woodwork and drafting.

Perhaps because of the short-term nature of EPW programmes in the non-formal system, they appear not to have been very successful in the promotion of the objective of social cooperation. A case worth noting is that of St Lucia's Youth Development Programme (YDP). The latter was established in 1980 with the objective of alleviating youth unemployment by creating income-generating projects for youths largely through a loan/grant system. There was a strong emphasis on social cooperation because the youths were required to work in groups of at least three. Some thirty-five small projects were funded in 1980 in such areas as agriculture, baking, tyre repair, furniture manufacture and sewing. However, not only did a number of the youth groups renege on loans and interest payments, but they also suffered from interpersonal problems which brought some of them to an untimely end (Braithwaite 1984). Inadequacies in training and lack of proper monitoring of the youth groups may well have contributed to this. Twenty-nine out of the thirty-five projects, however, have survived (Braithwaite *ibid.*). The Agro-Processing Training Scheme seems to have met with somewhat more success. The Ministry of Community Development (St Lucia) sought funding from the USAID for this project which was geared at establishing an income-generating agro-processing industry (utilising fruits and vegetables). The fostering of social cooperation, teaching skills of self-development and community development, the acquisition of employable skills were among the programme objectives. The programme was implemented in September 1982 when forty-four youths from the village community of Mabouya and Dennery were trained in the production of jams, jellies, the techniques of food presentation, business management, accounting, marketing and personal relations. Training was on a weekly basis for eight months. The agro-processing unit at Dennery in particular, was successful and its products were marketed under the 'Aunt Lucy' label. Opportunities for employment for these youths after graduation, however, proved very limited.

Provision for Girls and Young Women

On the question of special provision in EPW programmes for the vocational needs of girls, the picture in the non-formal system is not far different from that in the formal system. In the latter, we earlier noted a situation which was largely one of girls doing home economics and boys doing industrial arts and agriculture, even though there was no deliberate policy by the Ministry of Education to encourage sex-typing of vocational choices. Similar practices prevail in the non-formalised system, but there the nature of the programme is often more clearly based on sex. Associations or centres for skills training are established specifically for men or women. For example, the Babonneau Womens' Association in St Lucia gives income generating skills in sewing and nutrition to rural women and young girls (Braithwaite 1984), while the Women's Centre Programme offers adolescent mothers in Jamaica skills training alongside continuing education courses (McNeil 1984).

Although it was not a deliberate policy of the initiators, sex-typing of vocational choices is evident in the Barbados Skills Training Programme (STP) (see Table 6.2).

Table 6.2: Vocational Choices in the Barbados Skills Training Programme by Sex¹

TRADE	ACCEPTED IN 1984		COMPLETED		PLACED	
	M	F	M	F	M	F
Automechanics	25	1	18	-	4	-
Electrical Installation	97	3	86	3	23	1
Horticulture	15	11	8	5	3	1
Masonry	52	-	39	-	23	-
Tractor Operations	34	3	34	3	8	1
Upholstery	7	11	-	-	1	1
Woodwork	125	-	97	-	69	-
Needlecraft*	-	38	-	33	-	2
TOTALS	355	67	282	44	131	6

* These are trained for self-employment

¹ Source The National Training Board of Barbados Report on the Skills Training Programme (1984) p. 2

The STP was initiated by the Ministry of Labour in 1978 to provide facilities for training school leavers and unemployed youths in employable skills. Funding was received from such sources as Nigeria, the OAS, the USAID and the Barbados government. Supervisors for this programme were trained at Jamaica's VTDI. A Tracer study on the project carried out by the SYSTEMS group of companies (1978-81) reported that most trainees found the programme of training easy to follow and expressed satisfaction with the demonstrators. In that survey it was found that 60 per cent of the graduates were employed. The programme proved especially beneficial to female trainees who had been

unemployed before training. Employers reported that the graduates were of immediate use at the work place or useful after a short period of job orientation (Barnett 1983). The situation does not seem so positive in 1984 where the number of men in the programme far exceed that of women. Less than 50 per cent of the men who completed their programmes found jobs and less than 20 per cent in the case of women (see Table 6.1).

Farming Projects

A number of EPW programmes in the non-formal educational system have sought to attract young people into farming. The agricultural census conducted in Grenada in 1982, for example, found that the average age of a farmer in Grenada was 57 years. Low income and unsatisfactory returns were among the factors that contributed to deterring young people from farming. Grenada's agricultural training centres arose out of the need to train young farmers in a nation which relied particularly on agriculture for the survival of its economy. These centres, therefore, sought to train unemployed youths in the modern techniques of agriculture, to upgrade the quality and quantity of agricultural production and to promote crop diversification in the agricultural sector. These centres were residential and the only qualification for entry into the 16-week programme was an interest in agriculture and a desire to become a farmer (Brizan 1983). A work-study programme was pursued in which between 9.00 am - 12.00 noon the students studied such areas as soil science, crop production, cooperatives, farm management, agricultural engineering and animal sciences alongside a programme in political education. Academic study was thus sandwiched between two hours work in the fields (6.00 am - 8.00 am) which continued again after 2.00 pm. Four centres were established (la Sagesse, Boulogne, Bocage, Carriacou). The centres produced a variety of crops some of which were used to feed the trainees, but the bulk of the crops was sold to the Marketing and National Importing Board. Most of the graduates of these centres were employed by the Grenada Farm Corporation and the Progressive Farmers Union (Brizan *ibid.*).

The farms set up by SERVOL - a community-based action programme established in 1970 in Laventille, Trinidad - were not so successful. These farms were geared to attracting youths in Trinidad and Tobago into farming. Three farms were established in 1973 and four years later were turned over to the groups concerned who then assumed total control of the farms. The youths had been prepared for this responsibility over a period of two years. For example, they had been brought into all policy-making decisions, had operated their own bank accounts and made decisions regarding questions of discipline and bonus payments to workers. SERVOL contributed by subsidising the running expenses of the farms, supplying technical advice and, through the assignment of a social worker to each project, gave the youths help in the development of self-awareness. Pantin (1979) gives several reasons for the collapse of the farming projects. In the case of one farm, it appears that the youths were prepared to continue farming as long as a financial subsidy was available, but when it became apparent that they had to make the farm self-supporting, many of them were not prepared to put in the extra effort needed. Another farm, which was centred around eighteen young men, all graduates of the Government Farm School, where they had received two years of intensive agricultural training, collapsed completely because "more than half were never really interested in farming" (Pantin *op. cit.* p. 53).

The National 4-H Centre provides young Belizeans with basic training in agriculture including animal husbandry, record keeping, home economics, health and safety and leadership skills. Three courses of three months duration and two of one month are held each year. The centre is residential for twenty trainees at a time. At the end of the course, trainees are expected to return to their districts and put their own agricultural and animal husbandry projects into effect. The Youth Development Centre (Belize) provides one year residential courses in agriculture and ancillary skills (e.g. carpentry, plumbing, basic electricity and automotive repairs). Participants in these courses are usually 16-20 years old and normally have primary school leaving certificates. How successful these centres have been is not known. The Young Farmers Development Programme in Barbados, however, was very successful. It was initiated in 1980-1981 as a joint pilot project of the Extra Mural Department of the University of the West Indies and Barclays Bank International. Other sponsors were the Ministry of Agriculture and the Barbados Agricultural Institute. The programme sought to provide on-the-job training preparation for employment at middle-management level on commercial farms or for those interested in becoming farming entrepreneurs. The period of training was for two years. Participants had to be between 18-25 years with a good general education, good character and with an aptitude for farming. Only six people took part in the pilot project. They were attached to various farms for a period of four months at a time. Lectures and demonstrations were held weekly and at the end of each practical attachment. Five of the six participants found employment (Barnett 1983).

Securing Employment

One of the strong features about EPW programmes in the non-formal system is that by their very design they seem to more readily facilitate employment. Antigua's Pre-Employment Training (PET) programme is a good example. PET was launched in 1976 by the Ministry of Economic Development in an effort to alleviate unemployment amongst school leavers. In the initial stages the programme was confined to the hotel industry. Trainees were attached to hotels for on-the-job training of between three to six months. While in training, they received a stipend from government, but on successful completion of their programme they were assured of employment in the hotel. The programme ran for about five years and involved hundreds of trainee-employees in several industries, including garment manufacture, hosiery products, paints, paper, refrigerators, electronic components and ophthalmic lenses. Although PET was terminated, most of the industrial operations survived. The most notable successes have been the garment and furniture manufacturing ventures, particularly as some of the workers trained in these operations have set up businesses of their own. PET has been judged a success in meeting its objectives to supply a semi-skilled labour force for new industrial undertakings and to ease the problem of unemployment (Ministry of Education, Culture and Youth Affairs, Antigua, September 1983). Also in Antigua is a Maritime Skills Training Programme, launched in 1983 and catering to young people (18-25+) from all over the Caribbean. After their course of training, the graduates are readily employed in the tourist industry, on yachts, in water sports, cruise ships, etc (Knowles 1985). The Nelson's Dockyard Skills Training and Self-Employment Generation Programme (Antigua) has also met with considerable success. One of the programmes in the historic dockyard is a lapidary project in which young people are trained in cutting, shaping and polishing the fossilized material found around the dockyard.

These are made into fine jewellery, figurines and other souvenirs. Some youngsters have developed a very lucrative trade in this. Another programme surrounds art work. Qualified artists give instruction to primary and secondary school leavers about three afternoons per week. They are taught to print T-Shirts, paint signs, notices, etc. There is also a programme in bakery and sailmaking. "The whole programme", writes Knowles (op. cit.) "is an excellent example of education and productive work at the non-formal level. Not only have those involved developed skills, but they have also created successful self-employment programmes by which they initiate themselves in such competencies as production techniques, accounting and marketing" (p. 23).

Other programmes have also been assessed favourably in terms of the ease with which graduates find employment. A tracer study of the graduates of Trinidad and Tobago's Hotel and Catering School, for example, found that 60 per cent of them found employment within three months of graduation (Williams and Harvey 1983). Grenada's National Institute of Handicraft which trains youths aged 16-22 in light handicrafts (together with some functional mathematics) offers opportunities for the graduates to work in the Institute or seek their own employment (Brizan 1983).

Semi Stay-Put Training

Participants in programmes of a semi stay-put nature usually have little if any difficulty in securing employment. For the most part, participants are either already employed or have joined some apprenticeship scheme. The Human Employment and Resource Training (HEART) programme launched in Jamaica in 1982 by Prime Minister Edward Seaga, offers skills training to young people in agriculture, craft, garment making and building. Courses last between three to six months and participants are given a weekly allowance by government during that period. The HEART programme is managed by several government ministries. For example, the Ministry of Agriculture manages the Agricultural Skills Training Project, while the Ministry of Industry and Commerce and the Jamaica Industrial Development Corporation manage the garment skills training project. Of special interest is the School Leavers' Programme (SLP). Graduates of secondary schools between the ages of 17-20 years who are neither employed nor undergoing further education are eligible for training in this programme providing that they have academic qualifications (e.g. 2 or more G.C.E./CXC subjects). The SLP, which is administered by the Ministry of Education, offers on-the-job training for these youngsters in areas related to their career choices. On-the-job training is for one year in the first instance, but the training may be extended to two more years. Employers are given tax incentives for their participation in the HEART programme. At the end of the period of training, the trainee may be given employment, but many have to enter the job market in search of jobs.

In contrast, participants in the Linden Apprenticeship Training School in Guyana are assured of jobs. This scheme is organized by the bauxite company (GUYBAU), and is designed for school leavers who at the age of about sixteen commence a five-year training programme. Electrical installation, automotive mechanics, welding, commerce and business are the areas offered. The trainees attend the centre full-time during the first year. In the second and third years they attend for three hours per day while in the last two years they do field practice full time under supervision.

SERVOL's Vocational Training Programme (SVTP) offers another interesting case. The SVTP consists of institutes in welding, carpentry, masonry, electrical installation, each of which generates its own income through the marketing of productive work, thereby earning enough to pay the overheads of the institute and, in some cases, provide incentive bonuses for apprentices during their period of training (Pantin 1979). Each institute is also operated like a small business and the committee in charge has to handle business procedures. This kind of training, says Pantin, has proven valuable "in view of the current inability of so many highly skilled craftsmen to give accurate estimates for jobs and to run a profitable business" (p. 48).

Stay-Put Training

The only example of stay-put training that this investigation has unearthed is St Lucia's Non-Formal Skills Training (NFST) programme. Initiated in 1983, this programme was sponsored by the Ministry of Community Development with OAS and USAID funding. Because the Youth Development Programme encountered so many problems with the placement of graduates in jobs, the NFST sought to avoid these problems by giving young people between the ages of 16-25 training in productive situations. Job offerings were previously investigated and training was given on the job. The trainee then continued in full-time employment once the training was complete. Training sessions were full-time for the whole week and during training the trainee received a stipend from the government. The period of training lasted about three months. Since 1983, over four hundred persons have received training in such areas as basic electronics, silk screen printing, fish processing, industrial sewing, book-binding, batik and tie-dye.

Overview

What is evident from the preceding account is that EPW programmes in the non-formal system which are youth-employment oriented are 'through-put' or 'semi stay-put' in nature. Increasingly too we are observing the emergence of programmes that involve a close interface between the formal and non-formal educational systems. Jamaica's HEART programme is a good example of this. The Junior Achievement Programme (JAP) is another. JAP is designed to give senior students in secondary schools an opportunity to learn first-hand how a business operates and to gain an understanding of economics and human relations. The scheme is a joint venture between secondary schools and executives in commerce, manufacturing and small business. It operates in Jamaica, Barbados and the Bahamas and is sponsored by the local Chamber of Commerce. JAP involves senior students who are about to enter the world of work being brought together in groups of between 15-20 for about two hours per week when they are advised by executives from commerce and industry. Each group functions as a small business for a period up to one year, during which time they establish the business and sell shares to raise operating capital. Each group elects its own officers, chooses its product for manufacture, works out marketing plans, pays salaries to workers in the company and promotes the product. Companies formed by groups of students in Barbados are usually of a manufacturing type using a production line technique, while pastrymaking, canteen service and wood products have been the areas of emphasis in Jamaica. These companies have recorded profits of between four hundred to in excess of three thousand Jamaican dollars (Hill 1985). Further research, however, is needed to ascertain how many participants in JAP enter business as a career.

Where EPW programmes in the non-formal system came out more favourably than those in the formal system is in relation to the achievement of economic objectives. Participants in the non-formal programmes seem able to secure jobs more readily, partly on account of the way in which the training itself is organised, thereby enabling a closer relationship with the future institution. The use of modular skills training in some EPW programmes in the non-formal system (e.g. Dominica's Skill Training Programme) facilitates a more immediate response to urgent manpower needs, since this form of training focuses only on what is needed for a specific job situation. Since rapid changes in technology can alter job situations and therefore training requirements so quickly, in order to give young people some flexibility, some programmes focus on making young people versatile in a basic cluster of skills among which is the area selected for specialisation. SERVOL has restructured its Vocational Training Programme along these lines. Thus, students who wish to specialise in plumbing, are also given skills in masonry, welding, carpentry, etc. Pantin (1979) sees this approach as a way of preparing the trainee "more adequately for the complex problem of a world undergoing 'future shock'" (p. 48).

EPW programmes in the non-formal system seem able to reduce economic costs in ways in which their counterparts in the formal system are unable to do. Having on-the-job training, for example, enables trainee-workers to get experience in the use of modern equipment and materials which the formal system cannot afford. At the same time it reduces the experience of financial embarrassment that young people involved in work experience programmes in the school system often endure (Jennings-Wray et. al. 1982). Other cost-cutting devices are the use of existing buildings as well as personnel in the formal educational system for training instructors.

These programmes are not without their problems, however. A serious problem is the quality of these programmes. Their short-term nature, as well as the low entry level of the participants militates against the development of high standards. This accounts for why some employers are unwilling to accept the certification given for these programmes (in the few cases where it is given). Jamaica's Vocational Training and Development Institute (VTDI), for example, has this problem (Smalling 1980). The quality of the EPW programme in the non-formal system is also affected by the fact that the poor salaries offered do not attract the best vocational instructors/teachers. Dominica's Skills Training Programme and Jamaica's VTDI have suffered from a lack of adequately qualified instructors (Alexander 1984; Smalling 1980). All the tutorial staff in Belize's School of Agriculture have full-time appointments in the Ministry of Agriculture. Partly because of this, and partly because of the level of entry, the school has been unable to achieve accreditation as a tertiary level institution.

But it is not only EPW programmes in the non-formal educational system that is experiencing problems in securing the appointment of good teachers/instructors. A number of Commonwealth Caribbean territories are currently experiencing an exodus of teachers from all levels of the formal educational system. Technical-vocational teachers in particular, are attracted by the improved salaries and better working conditions that industry can offer. Perhaps this is pointing to an area in which the world of work can interface more closely with the educational system in the future. At a time when enterprises in the public and private sectors are being encouraged to assist the community generally, firms, businesses, etc. to which teachers have

fled for succour from their economic hardships could think of making it a part of the task of these ex-teachers to return to the classroom and give of their services for a selected number of hours per week. This may well be one way of improving the quality of EPW programmes in both the formal and non-formal educational systems.

Summary

1. The non-formal education system is seen by many as an alternative to the formal system which is not only less costly but more capable of responding speedily in relevant ways to the demands of socio-economic development.

2. EPW programmes in the non-formal system are of the following types:

Through-Put Training	involves training in a separate institution for successive cohorts of youths who are responsible for finding their own employment after completion of training. Productive activity in these programmes are carried out in workshops in institutions in which the training is done and often complemented with work experience.
Through-Put Training with settlement	as in (i) but the programme organisers assist trainees to secure jobs through a 'placement service'.
Semi Stay-put Training	a form of employment-based training relating to various types of apprenticeships which enable youths to develop relevant skills in a real work situation. A permanent job may or may not be guaranteed on completion of training.
Stay-Put training	youths are put in a productive situation from the beginning and are given training which is provided or mediated by an outside agency. The trainee continues there in permanent employment on completion of training.

3. Most of the EPW programmes in the non-formal system of the Commonwealth Caribbean which are youth-employment oriented are 'through-put' (with work experience) or 'semi stay-put' in nature.

4. Some programmes involve a close interface between the formal and non-formal systems (e.g. periodic training by executives in commerce/industry of senior students in secondary schools).

5. Sex-typing in occupational choices is reinforced by the setting up of programmes especially for men or women.

6. Main difficulties encountered by EPW programmes in the non-formal system:

- imbalance between academic teaching and practical skills training: invariably the major emphasis is on production.
- programmes generally tend to be perceived as suitable for 'drop outs' or low achievers.
- persistence of negative attitudes to agriculture has led to the failure of some farming projects.
- lack of an efficient system for monitoring trainees.
- inability of programmes to attain a suitably high quality on account of:
 - (a) low salaries that do not attract adequately qualified instructors.
 - (b) length of training too short to give skills for satisfactory job performance.
 - (c) students tend to be school 'drop outs' who have low motivation for further training: thus only very basic skills often taught.
- limited opportunities for employment after completion of training (especially those of a 'through-put' nature).
- lack of recognised certification on completion of training.
- where such certification exists, employers are generally unwilling to accept it as a proper qualification for a job.

7. EPW programmes in the non-formal system appear to be more successful in the achievement of certain economic objectives than similar programmes in the formal system.

8. The use of modular skills training in some EPW programmes facilitate a more immediate response to urgent manpower needs. Training in a basic cluster of skills, however, may well be more appropriate in the face of rapid technological changes in the future and the impact this is likely to have on the survival of certain types of occupations.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATIONS

In this chapter conclusions will be drawn relating to provision for the vocational needs for girls and the role of international aid agencies in supporting EPW programmes. An assessment will also be made of the effectiveness of EPW programmes particularly in terms of the extent to which objectives identified have been achieved. What this suggests in terms of the appropriateness of the various approaches for the preparation of youths for the world of work will also be discussed. The relative merits of vocationalising schools' curricula and the value of work experience programmes as a strategy for linking education with productive work will be highlighted. Some main factors to be taken into consideration by future planners of EPW programmes will be outlined. Finally, some missing gaps in our knowledge of attempts to link education with production will be identified and main areas for research and action underscored.

Provisions for the Vocational Needs of Girls

As has been pointed out before in this study, no ministry of education in the Commonwealth Caribbean has a deliberate policy of getting girls to do certain vocational subjects and boys others. Some territories (e.g. Jamaica) do have vocational institutions specifically designed to respond to the needs of a particular sex, but even here such institutions have in recent times become co - educational (e.g. Knockalva). In spite of the absence of a deliberate policy, sex - typing of vocational choices does occur (see Table 7.1). There is a clear suggestion here that the girls are being prepared to become the home maker-cook-cum-shopper while the boys are the ones getting ready for the real world of work. It is not that girls are not capable of doing woodwork, automechanics and electronics, but rather that they have been brought up in a culture which socialised them into believing that such are 'boys' subjects'. Some Commonwealth Caribbean territories are taking this question of sex-typing of vocational choices very seriously. Guyana, for example, is instituting measures to ensure that girls do what have been traditionally regarded as 'boys subjects' (e.g. woodwork, technical drawing) and boys do cookery, home economics, etc. What the impact of this strategy will be, only future investigations can reveal. However, such intervention strategies are needed in order to change the attitudes of girls towards traditional 'boys' subjects and to encourage them to make use of opportunities which the schools can offer them.

Role of International Aid Agencies

No innovation can succeed without adequate funding. It is understandable therefore why international aid agencies have played such a crucial role in EPW programmes in both the formal and non-formal educational systems. Funding agencies, however, often underestimate the amount of time it takes for an innovative idea to be effectively implemented. Just when a programme really gets going, invariably funds are either exhausted or withdrawn. Often the programme fades away soon after, because those responsible for the programme (or the receiving government) lack the funds to sustain it. Dominica's Junior

Table 7.1: Technical-vocational subjects taken by male and female
Grade 11 students in 51 Jamaican New Secondary Schools

SUBJECT	M	F
Agriculture	12	-
Woodwork	638	-
Metalwork	236	1
Auto Mechanics	571	2
Technical Drawing	167	-
Welding/Machine Shop	649	1
Electronics	24	-
Electrical Installation	1214	9
Plumbing	194	-
Carpentry	119	24
Needlework	6	882
Cookery	48	875
General Housecraft	4	48
Home Economics	5	79
Catering Service	10	112
Principles of Accounts	167	362
Typewriting	94	908
Office Practice	6	124
Clerk/Salesmanship	27	90
Business Education	16	78

Source: Education statistics 1976/77: Annual Statistical Review of the
Education Sector, Ministry of Education, Jamaica, Nov. 1977

Secondary Programme, Belize's REAP programme, St Lucia's Youth Development Programme are but a few examples of the programmes that have suffered from the exhaustion or withdrawal of international funding. It seems reasonable to suggest that before an international aid agency releases funds, there should be some discussion concerning the genuine capability of the recipient agent to sustain the programme financially once the aid is withdrawn or exhausted. If the recipient agent does not have the necessary financial backing, the wisdom of implementing the innovative idea anyway becomes a moral question, because not all innovations are for the good. And an aborted innovation can do more harm than good.

Table 7.2: Comparison of effectiveness of achievement of objectives of EPW programmes in the formal and non-formal education systems of the Commonwealth Caribbean

Objectives	EPW PROGRAMMES	
	Formal	Non-formal
<u>Pedagogic</u>		
Maintain balance between academic & practical skills	x	+
Use of scientific knowledge in production	*	*
Self improvement/self development	+	+
Awaken dormant potential	+	+
Bring out creativity	+	+
<u>Social</u>		
Eradicate stigma attached to different types of education	x	*
Develop positive attitudes to physical/manual work	x	+
Develop cooperative spirit	#	*
Eradicate sex-typing of roles/occupations	x	+
Develop positive self-concept	x	+
Develop attitudes congenial to work situation	#	*
Develop individual self-reliance	+	+
Create egalitarian society	x	!
<u>Economic</u>		
Institution/programme become self-financing	*	*
Individuals initiate self-employment projects	x	x
Promote national self-reliance (economic sphere)	+	+
Preparation for ready employment	*	#
Promote development at the community level	#	#
Attract youth to careers in agriculture	x	#
Reduction in economic costs of programme	x	#

- KEY: # Evidence so far suggests overall positive results
- x Evidence so far suggests overall negative results
- * About as much evidence of positive as negative results
- + Assessment not possible
- ! Does not feature as an objective

An Assessment of the Effectiveness of EPW Programmes

Table 7.2 gives a summary of the objectives of EPW programmes identified in Chapter 1. The objectives of these programmes are indeed ambitious and difficult (if not impossible) in some cases to assess. For example, how one would assess such objectives as 'awaken dormant potential' and 'bring out creativity' is not at all clear. Likewise, 'the use of scientific knowledge in production'. One would expect the latter to be somewhat thwarted by the fact that many graduates of EPW programmes are unable to make use of the knowledge and skills gained in the productive sector. EPW programmes in the formal educational system, possibly because of their more long-term nature, appear to be more successful with social objectives. Assessments of work experience programmes have consistently shown that students develop the sorts of attitudes valued by employers at the work place (Jennings-Wray et al 1982: Ministry of Education, Guyana 1979). Although the Junior Achievement Programme has only been operating in Jamaica for two years, already it has been credited with inculcating in the youths the value of good inter-personal relations between management and workers (Hill 1985).

It is difficult to assess the extent to which EPW programmes ever could contribute towards the creation of an egalitarian society, since it is such a long-term objective. What is clear, however, is that an egalitarian society cannot be achieved overnight and governments in the Commonwealth Caribbean that have strongly supported EPW programmes with this ideas in mind have been relatively short-lived: for example, Jamaica's Democratic Socialist government and, even more so, the Revolutionary government of Grenada under Maurice Bishop. If the fostering of equal opportunities for all is a step towards the attainment of an egalitarian society, then it is hardly likely that this is being achieved in situations where students who attend schools offering academic curricula are accorded higher esteem in society than those who attend schools offering programmes that are more practical and vocationally oriented.

EPW programmes in the non-formal system seem to be more effective in achieving economic objectives. This partly has to do with the ways in which training is organised so as to link closely with the productive situation. Employment-based training wherein youths develop relevant skills as apprentices in real-work situations (semi stay-put training) is fairly common in the Commonwealth Caribbean, but the most common type of organisation is 'through-put' whereby training is within a separate institution for successive cohorts of youths who find their own employment after completion of a standard programme. The objective of getting individuals to initiate their own self-employment project has only been achieved to a very limited extent. Research has shown that a few graduates of Belize's REAP programme and Guyana's Community High Schools have become self-employed. However, youth unemployment is a problem that EPW programmes in the formal and non-formal educational systems by themselves cannot solve. Statistics from Jamaica give an example of the magnitude of this problem (see Table 7.3). The current unemployment rate in Jamaica stands at 25.6 per cent with the highest level of unemployment being amongst the 14-19 age groups, young girls being the most disadvantaged. These figures have remained fairly constant since the beginning of the 1980's. In Barbados, the unemployment rate for 1984 was 17.8 per cent (Barbados Statistical Service: monthly digest of statistics. No. 19, July 1984), while in Grenada it is estimated at about 25%. Grosman and John (1984) explained that with a 40 per cent annual growth rate in the labour force, Grenada has 1,600 people entering the job market each year.

With 25 per cent already unemployed, "it means that we already have 10,000 persons without jobs, quite apart from the 1,600 generated each year" (p. 13). Linking education with productive work hardly makes sense unless there is work for the graduates of these programmes. How to generate employment opportunities for the young, therefore, is a serious question that governments in the Commonwealth Caribbean need to address.

Preparation for the World of Work: Which Approach?

Which is the best approach for the preparation of the youth for the world of work? Is this preparation best dealt with in the formal school system or should it be left to the non-formal system where the training potential of the productive sector could be harnessed? As indicated in this study already, the latter approach is attractive particularly from the economic point of view since attempts to link education with productive work in the formal education system have incurred costs which the system can ill afford. Yet at the 38th session of the International Conference of Education held in Geneva in November 1981, Recommendation 170.73 recommended to Ministers of Education that the interaction between education and productive work should be brought about by "including productive work in the teaching and educational process in schools and other educational establishments" (quoted in Pain 1982 p. 17). The Unesco (1983) report on the Development of Secondary Education in Jamaica underscored major weaknesses in the secondary school system particularly in terms of low levels in literacy and numeracy skills, inappropriate teaching methods and poor laboratory facilities and equipment. The report suggests that "perhaps, secondary schools should not be concerned with activities which are aimed at providing youths with employable skills. This should be left to genuine training institutions outside the ... system" (p. 15).

Table 7.3: Unemployment Rate by age-group in Jamaica (March 1984)

Age Group	Both Sexes	Male	Female
Total Population	25.6	15.8	36.5
14 - 19	55.3	38.7	78.5
20 - 24	43.1	27.9	58.9
25 - 34	24.2	12.2	44.3

Source: Statistical Review (The Statistical Institute of Jamaica, January 1985)

One difficulty, however, is that these "genuine training institutions.." are relatively few in the Commonwealth Caribbean, so that if schools do not give some training in employable skills for a vast number of young people, leaving school will be like entering a cul de sac. The plight of the graduates of All-Age schools underscores this. Since there are not enough places in New Secondary schools for children not selected by the Common Entrance Exam (11+), as Table 7.4 shows, a vast number of these children do a further three years (grades 7-9) in All-Age schools. Here, for the most part, they are exposed to an extended primary school curriculum and therefore do not have access to the vocationally - oriented curriculum of their counterparts in New Secondary schools. Since only a mere handful of these students will gain access to New Secondary schools via the Grade Nine Achievement Test (see Appendix 11) we are talking here of the majority of youths who at the age of 14+ leave All-Age schools prepared neither for further education nor for the world of work. The situation in Jamaica may be most acute because of the size of its population, but it is not a problem peculiar to Jamaica. It is the reality faced by a great many young school leavers in the Commonwealth Caribbean. For instance, what provisions are made for those students who do not have access to the new Junior Secondary programme in Dominica (see Appendix 1)? The plight of these young people has to be taken seriously. At least until adequate numbers of post - secondary training institutions have been established, the formal school system will have to give these youths at least a modicum of training in employable skills.

Table 7.4: Total enrolment in grades 7-9 in All-Age and secondary schools in Jamaica (1980/81)

Traditional High Schools	Comprehensive High Schools	New Secondary Schools	Technical High Schools	All-Age Schools
35,000	4,357	57,534	3,649	68,908

Source: Unesco 1983: Jamaica: Development of Secondary Education

Vocationalising schools' curricula

This study has highlighted difficulties experienced in the vocationalisation of schools' curricula. Insufficient supply of tools and equipment lack of funds, scarcity of qualified teachers of vocational subjects and negative attitudes to practical/manual work are persistent problems. Deficiencies in the primary education system result in many students entering secondary level programmes with low levels of literacy and numeracy skills. Thus their foundation for employable skills training is inadequate. Community High Schools in Guyana have attempted to tackle this problem by offering courses in the first three years geared at correcting such deficiencies. Ideally, the solution is to tackle the problem at its root in the primary school system, but in the absence of this, experience suggests the need for schools with practical, vocationally curricula to strengthen their offerings in the

teaching of language and literacy skills, the sciences and mathematics, in order to provide a more secure base for skills training.

Despite their problems many schools with vocationalised curricula have been judged successful. Dominica's Junior Secondary Programme is one example (Alexander 1984). Jamaica's Technical High Schools is another. Demand for places in these schools has increased over the years (Unesco 1983) and the curriculum of these schools is, generally speaking, accorded high social currency. Interestingly, it was pointed out by researchers from Trinidad and Tobago at a seminar¹ held recently that although the Senior Secondary Comprehensive Schools had high failure rates among students doing technical courses, the majority of these students managed to secure jobs on leaving school. It appears that the problem lies not so much in inadequacies in their skills training, but rather in the nature of their terminal examination which tends to be biased towards the theoretical instead of focusing on practical skills learnt.

Work Experience Programmes

The Unesco (1983) report says of Jamaica's Work Experience Programme (WEP) that it "is of minimal training value, if any at all ... The apparent success of this programme is only statistical, not real" (p. 24). The report, however, does acknowledge that the time allotted for work experience (3-4 weeks) is "far too short to allow any work experience to be gained or to create positive attitudes towards work" (ibid.). This seems to be the crux of the matter: namely, that it is the time allotted for work experience that has proven problematic, not that work experience as a strategy for linking education with productive work is of minimal value.

Not enough thought went into the planning of the WEP when it was first implemented in Jamaica. The provisions made for the students to gain work experience were inadequate. Thus a number were unable to practise skills learnt in vocational training in actual work situations. A satisfactory supervisory system was not put in place. Hence students found themselves having to do menial tasks quite unrelated to the skills training they were supposed to receive. Little wonder that much could not be achieved during this 'work experience'. Jamaica's Human Employment and Resource Training (HEART) Programme tells a different tale. Being the brain child of the Prime Minister, it has strong government backing and because a great deal of planning preceded its implementation, it has been able to avoid the problems encountered by the WEP. On-the-job training, for example in the School Leavers Programme is for a minimum of one year and this could be extended up to another two years. The programme is financed from various sources including international aid agencies and the HEART Act (1982) provided incentives in the form of tax benefits for employers who took in HEART trainees

1 An overview of programmes linking education with productive work in the Commonwealth Caribbean: some areas of needed research. (Paper presented by Zellynne D Jennings at a meeting of the Caribbean Education Research Review Advisory Group, held at the University of the West Indies, Mona, Jamaica. November 19, 1985).

trainees. An efficient system of supervision has been put in place in order to ensure that students are given the maximum guidance during their period of training. Combining as it does the joint effort of the formal and non-formal systems, the HEART programme offers an example to educational planners searching for a strategy for linking education with productive work in the future.

Because entry to the School Leavers Programme is largely on the basis of academic qualification, this programme does not address the plight of the graduates of the All-Age schools referred to earlier. Indeed it appears that it is the graduates of the High School system rather than those from the New Secondary schools that benefit most from the HEART programme.

Work Experience Programmes can be implemented to enable the 'education' and 'production' components to be 'sandwiched' in various ways. Students could be released for short periods (e.g. day, three days, one week) or blocks of time (one up to six months) over the final years of secondary schooling. Such varieties can be found in the Guyanese system. What Guyana calls its 'work-study' programme is accorded such importance that it is given prominence in the national news media. An article in the Guyana Chronicle (Monday July 22, 1985) reported that some 90 primary and secondary school students were to do two months work experience in 21 government and private agencies in Linden. Upon completion of their attachments these students would be given certificates of competence by their respective work places. This programme combines the cooperative effort of a number of bodies and organisations - the Regional Administration, the Young Brigade and the National Cadet corps of the Guyanese National Service.

Some suggestions to future planners of EPW programmes

In order to make future attempts at linking education with productive work more effective, educational planners need to bear in mind certain concerns which are administrative-management, economic, pedagogical and socio-cultural in nature.

Administrative-Management

- 1) The problem of unemployment amongst the youth is not something that the education system alone can solve: it requires the combined effort of education and productive forces; in a society that can generate employment strategies, setting up small-scale industries etc.
- 2) Planners of EPW programmes need to keep in tune with developments/changes in labour market practices.
- 3) There needs to be more effective communication and information dissemination between formal and non-formal education agencies.
- 4) Planners of EPW programmes need to liaise closely with employers, at least to ensure that they are aware of what goes on in the schools, how pre-vocational training programmes operate and what could reasonably be expected of students during work experience. A lack of such knowledge will lead not only to unreasonable expectations of students at the work place but also to an ignorance on the part of work station supervisors with regard to the guidance they ought to give students (Jennings-Wray et al 1982).

5) Efforts should be made to reduce the communication gap between researchers on education and productive work, and planners of EPW programmes who could benefit from their findings.

Economic

1) A change is needed in the reward structures for different levels of skills in developing countries. This is particularly so for the case of agricultural workers in developing countries with a largely agricultural-based economy. Young people cannot be expected to be attracted to agriculture as a career if their economic reward is lower than for other skilled jobs.

2) Measures need to be adopted to ensure that the certification received in the non-formal system for achieving the required standards in EPW programmes is given the same recognition as similar certification in the formal system.

3) In the current economic climate and resultant economic crisis, the closer linking of education with productive work can pose a direct threat of competition for other workers. For example, there have been cases of employers either laying off workers to facilitate HEART trainees, or opening up new establishments manned entirely by these school leavers. The lure is the reward of tax benefits and relatively cheap labour. The Jamaican Government however, has made it quite clear that such an act is against the law. Employers may find very subtle ways of overcoming this and so resistance from Trade Unions may well be a force to be reckoned with in the future in any large scale effort at linking education with production.

Pedagogical

There is a shortage of teachers in Commonwealth Caribbean societies with the skills needed for training for productive work. Such as there are, are quickly absorbed into industry at much higher salaries and better working conditions than the school system can provide. Not only is there a need for such teachers to be produced on a much larger scale, but there is also a need for changes in teacher education programmes which would give teachers knowledge of, and skills in, the practices of manual and productive work. This would enable them to become more effective in terms of communicating to students the value of productive work in their total education.

Socio-Cultural

1) Pain (1978) has observed that "where education is a medium for social mobility and mainly directed at selection for a higher level of education, it creates a resistance among parents to work-oriented courses" (p. 25). This constraint lies at the heart of attempts to link education with productive work. Commonwealth Caribbean societies accord higher status to academic curricula than they do to those which are more practical and geared to preparation for the world of work. As a result, parents tend to put up some resistance to their children's participation in the latter. This suggests the need for EPW programmes in the formal system to be implemented at all levels of the educational system and not just in selected school types. As Van Rensburg (1977) has noted:

Unless it becomes the total focus of a national education system, carried out with great political determination, the incorporation of productive activities into the curriculum and activities of schools will not and cannot be sustained. (p. 353)

2) The school types into which EPW programmes have tended to be introduced have been those which have a lower social class intake as well as a student population generally designated as 'low achievers'. As a result many EPW programmes have come to be regarded as suitable only for 'low achievers' or 'drop outs'. Such a perception does little to enhance the acceptability of these programmes.

Everything should be done to make EPW programmes acceptable to the society at large. The school which is not linked to the productive forces of society will produce individuals who are not only ill-prepared in terms of the attitudes and characteristics necessary for meaningful integration into the work place but also in terms of the quality of skill preparation needed to function optimally in the productive programmes of the nation. It is the writer's belief that every human being should have a productive skill even if it is not fully utilised in his or her lifetime. The pace of change is so rapid in today's world and the outdatedness of certain knowledge, competencies and skills takes place in such a relatively short space of time that individuals have to be prepared to change their occupations at least once in their lifetime. At any rate, people are finding it increasingly important that they have more than one source of income. As the Cuban educator, Jose Marti, once said, everyone should learn to make something that someone else needs. This is particularly pertinent in Third World countries where the demand for productive skills is greater than for academic ones. Productive work has to loom large in the thinking of educational planners in developing countries.

Missing Gaps: Areas of needed Research

1. Existing EPW programmes in the formal and non-formal educational systems of the Commonwealth Caribbean need to be evaluated.
2. An action research project needs to be mounted on a regional basis to ascertain the most appropriate strategies for preparing 7-9th grade students in All-Age schools for the world of work.
3. There is a dearth of information on the processes involved in the initiation, development and implementation of innovative EPW programmes in the Commonwealth Caribbean educational systems.
4. We know little about the type of activities given by instructors during skills training in workshops and how these relate to the skills needed in the real work situation.
5. Research is needed to elucidate how the 'education'/'training' and 'production' components are integrated in EPW programmes in both the formal and non-formal systems.
6. There is a need for research studies that identify the learning outcomes (product) of EPW programmes and assess their impact at the level of the institution, community and society.

7. Self-employment projects/programmes need to be carefully studied to pinpoint factors that lead to their success or failure.
8. Assessments need to be made of different strategies employed in the formal school system to attract youths into non-sex-typed vocations. Tracer studies of selected students should prove informative of future career choices. There certainly needs to be a more thorough investigation into how more varied career opportunities can be made accessible to young girls especially.
9. We need data on the day to day experiences of students involved in EPW programmes. What, for example, is the nature of work experience for grade 11 students practising skills learnt in their vocational areas in actual work situations? What does productive work in the schools curriculum mean for children who have to begin work while still in primary school to help their families eke out a living?
10. We also need to know how politicians and employers feel about EPW programmes since they do have a lot of influence on the fate of the programmes themselves or on the products of these programmes. Do employers and politicians see any value in EPW programmes in the formal educational systems, or do they prefer people trained on the job? To what extent does political ideology rather than pedagogical social and economic considerations influence the views of politicians?
11. Reliable measures of the attitudes of parents towards EPW programmes are needed.
11. We need to ascertain the views of the students themselves on EPW programmes. For example, where in their opinion, does training in manual/agricultural work feature amongst the aims of secondary education?

This list is by no means exhaustive, nor is it arranged in any order of priority, but what it does show is how little we know about EPW programmes. There is a pressing need for research which gives insights into the processes involved in linking education with production - that tells us what happens on the 'inside' of these programmes. These are studies that focus on the various 'actors' (teachers, instructors, students, parents, employers, politicians, innovators, planners, etc) involved in these programmes, bringing into the open their attitudes, values, responses expectations, conflicts etc. Such studies need to employ a broad range of research styles varying from the largely empirical to the more illuminative and ethnographic. What would also be of interest perhaps more to the educator than the politician or Ministries of Education is an historical study which explores phenomena which have led to the evolution of the modern usage, 'education with productive work' from what was referred to in the late eighteenth century as 'industrial education'.

There is still so much to be learnt, and for such information that we do have, more effective means of disseminating it needs to be found so that the decisions and actions of planners and practitioners in relation to EPW programmes in the future may be better based on informed judgement.

ANNOTATED BIBLIOGRAPHY

1. AHMED, Manzoor
'Critical educational issues and non-formal education.'
Prospects, Vol 13(1) 1983 (35 - 43)

The author explores the conditions that have given rise to the need for non-formal education programmes and considers the consequences of introducing these programmes. Most of the article is devoted to examining critical issues in educational development faced by developing countries in particular, namely: universalisation of primary education, post-primary educational opportunities, the care and education of the young child, relevance and practicality of school experiences, efficient use of scarce resources, strengthening links between education and development. How these issues bear on the question of linking formal and non-formal education is discussed. The author forecasts that in the last two decades of the century formal schools will maintain responsibility for education at the primary and secondary level and groups not traditionally served by the formal system will continue to be served by non-formal education.

2. ALEXANDER, Macdonald S.
Education and productive work in the Commonwealth of Dominica: a case study prepared for CARNEID (Unesco) June 1984

A study in which the author discusses the main aims of education and Production linkages in the Dominican education system particularly after Hurricane David in 1979. The Junior Secondary School Programme, the Clifton Dupigny Community College and isolated EPW programmes are described and their limitations pointed up. Difficulties encountered by the Centre for Adult Education are also discussed. In his overall assessment, the author concludes that it is difficult to effect any long-term planning for skills needs in Dominica because relevant information is not available from the employment sector. There is also a need for knowledge of national development plans on the part of those responsible for training in the technical-vocational fields.

3. BARNETT, Alvin
'Education and Productive work in Barbados: a case study'
(CARNEID/Unesco) 1983

Following some geographic and demographic features of the country, the author examines the response of the Barbados education system to development trends between 1960 - 1980. The concept of education and productive Work is defined and examples of EPW programmes are given, e.g. the Secondary Schools Vocational Programme, CXC Technical and Vocational subjects, the Samuel Jackman Prescod Polytechnic. Examples of non-formal EPW programmes highlighted are the Barbados Skills Training Programme, the Young Farmers Development Programme. In a review of the Work Experience Programme in Barbados, the author points up the strong base at the secondary level laid by CXC and considers the developments in non-formal education encouraging.

4. BENNETT, Alexander, J
'Nature and quality of the Provisions made for Technical Education programmes in Belize' (undated)

Overviews the courses offered at the Belize Technical College and at the Belize College of Arts, Science and Technology (BELCAST). Secondary schools in which technical education is offered are also highlighted. The quality of the programmes at BELCAST are considered high, but the secondary schools are plagued with such difficulties as inadequate finance to equip them properly, scarcity of qualified instructors, as well as a curriculum content which is generally divorced from the world of work.

5. BISHOP, Maurice M
'Education is Production too' (Speech at the opening of the second year of the National In-service Teacher Education Programme, delivered on October 15th 1981 at the Teachers College, St Georges. Ministry of Education, Grenada).

Prime Minister Bishop highlighted how the NISTEP programme was introduced and pointed up its main objectives. He justifies linking education with production on three grounds:

- i) that it forms the basis of any society;
- ii) that it will help solve the unemployment problem;
- iii) that it will reduce the cost of education.

Finally, he addressed the question of the new type of teacher that the new Grenada would need.

6. BRAITHWAITE, Marjorie M
A case study of Education and Productive Work in St Lucia (CARNEID/Unesco) 1984

Sketches the sporadic attempts at linking education with productive work in the primary and secondary school system before developing on skills training in the non-formal education sector. An attempt is made to assess the achievement and impact of the Youth Development Programmes, in the absence of evaluation studies. The author also assesses the possibilities for the future and examines some of the barriers to progress. The study has appendices dealing with the St Lucia College of Agriculture and Teachers Training College.

7. BRIZAN, George
'Education and Productive Work in Grenada' (CARNEID/Unesco) 1983

Reviews Education and Production in Grenada before proceeding to a breakdown of EPW programmes in the primary through to tertiary level institutions. The Agricultural Training Centres and the Grenada National Institute of Handicraft are among the programmes in the non-formal education system discussed. The author assesses EPW programmes in Grenada as having ambitious objectives and points up the need for greater clarity of conceptualisation. In particular, he says,

planners need to be clear whether objectives being pursued are mainly pedagogical, social or economic.

8. CENTRE FOR THE STUDY OF EDUCATION IN DEVELOPING COUNTRIES (CESO)
'Research Programme on Education and Production in Theory and Action (EPTA) Report of a workshop on Education with Production held in The Hague, The Netherlands, 21-24 February 1985 (The Hague, March 1985)

The report gives the proceedings of the workshop and then pinpoints the highlights of the discussions. These centred around definitions, the relations between education and production goals, the various actors (parents, pupils, teachers, employers, politicians, agencies) involved in EPW programmes and the social and economic context in which EPW programmes operate. The main outcome of the workshop was the formation of an international network which was assigned the task of conducting state of the art reviews in different regions, stimulating case studies and further action-research, and developing ways of assisting researchers and practitioners in the field.

9. D'OYLEY, Vincent, MURRAY, Reginald
Development and Disillusion in Third World education with emphasis on Jamaica. (The Ontario Institute for Studies in Education Symposium Series/10. 1979).

This book was motivated by a desire "to examine something of the historical development of education in Jamaica as a country that has so far failed to realise certain modest educational expectations" (p. 1). Teacher training, skill training, the foundations and later development of secondary education, and the management of education are the main themes explored by selected Caribbean and African writers, including the authors. The emphasis is on Jamaica but comparisons are made with Guyana and Ghana.

10. EDMOND, Daniel A H
'The influence of Belize's REAP programme on attitudes to agriculture and rural development (Unpublished B.Ed. study, University of the West Indies 1985)

Compares the attitudes towards agriculture of teachers and students in schools that had implemented REAP with their counterparts in non-REAP schools. The employment status of a sample of graduates of REAP schools was also investigated. Findings revealed positive attitudes towards agriculture on the part of all parties and there was no significant differences in the attitudes of teachers and students in REAP and non-REAP schools. Most of the REAP graduates continued to live and work in rural Belize. Problems such as the dual nature of Belize's educational system, shortage of tools and equipment, praedial larceny and dwindling finances still remain to be tackled.

11. FOSTER, Philip
'The vocational school fallacy in development planning in: Education and Economic Development Anderson, Arnold C; Bowman Mary Jean (Eds). (Aldine, Chicago pp 142 - 166)

Argues against the total mobilisation of the formal educational system in the direction of specific vocational training and advocates instead that much of the training should be done outside the schools on the job with a view to meeting actual manpower requirements indicated by the market for skills.

12. GORDON, Shirley C

A century of West Indian education: a source book (Longman 1963)

Explores problems set by the history of education in the West Indies. Among the main areas dealt with are the Negro Education Grant (1835 - 1845) and Colonial Administration (1865 - 1938). The last four chapters deal with Teachers, Secondary Education, Higher Education and The Heritage since 1935.

13. GOVERNMENT OF BELIZE, Belmopan

Development Plan 1977 - 1979 (March 1977)

This plan was seen as "the first phase of the long term perspective for socio-economic and political change "envisaged over the next 25 years in Belize". The main objective of the plan was to orient the education system towards the development needs of the country. Demographic statistics are given on Belize and there is a breakdown of the level of training of teachers in the country. The plan stresses a thrust towards agriculture which is seen as "the most important sector on which the future of the economy depends" (p. 54). The hope is also reflected that the REAP programme "will create the attitude and provide the skills necessary for young people to make meaningful contributions to the agricultural development of the country" (ibid.).

14. GOVERNMENT OF TRINIDAD AND TOBAGO

Report of the Cabinet appointed committee to examine the content, organisation and administration of technical/vocational education in secondary schools (Port of Spain 1984)

This inquiry was motivated by the concern of government over the poor performance of students in the national examinations administered by the National Examinations Council as well as by the relatively negative report of the Unesco (1982) team on the technical/vocational curriculum in secondary schools. Among the findings of the Committee were:

- i) that students in the Senior Comprehensive schools lacked the general educational background needed as a foundation for a sound technical/vocational education;
- ii) that the third form (14 year old) graduates in the Junior Secondary schools were intellectually and psychologically unequipped to make intelligent choices about their future careers;
- iii) the range of technical/vocational offerings was very narrow due mainly to poor facilities and shortage of competent instructors and the time allotted to the teaching of practical subjects, which was grossly inadequate.

The committee recommended that students should not be required to make career choices till they reached the age of 16 - 17. It also advocated the use of a modular system in training and stressed that "the expressed aim of the government to provide a sound general secondary education to all who are of school age should not be sacrificed in favour of a too narrow and premature preparation of the students for the world of work" (p. 7).

15. GROSMAN, Victor, JOHN, Alban M
Labour Market Information for Decision making in Grenada: Pilot key informants survey. (Ministry of Planning and Department of Labour, St Georges, Grenada. October 1984).

The authors explain the methodology used in carrying out this survey and highlight problems encountered. In the analysis of the main findings and results, they touched on global manpower requirements and the labour market operation, the supply of selected skills and vocational training programmes, unemployment trends, bottlenecks to employment generation and the out-migration issue. The increase in unemployment (7.6 per cent - 25 per cent) they explain, had to do with the October 1983 disturbances which led to the abandonment of many work projects. Other findings include: 84 per cent of the informants felt that training programmes were inadequate, that the curriculum was too academic and there was insufficient emphasis on training in employable skills; and that the teaching profession in particular was suffering from the effects of out-migration.

16. HALLIDAY, J J
'A case study on education and productive work in St Christopher and Nevis' (CARNEID/Unesco) 1984.

This study gives a wide-ranging perspective of productive work, education and development, touching on Marxism, and de-schoolers, various concepts of development and underdevelopment and related issues. Some attempts to link education with production are described but the impression given is that these are rather isolated cases. In the absence of evaluation studies, an attempt is made to assess the achievements of these efforts. Some suggestions for the future are given. There are a number of appendices including the allocation of academic compared to technical/vocational subjects in schools.

17. HAVELOCK, R G; HUBERMAN, A
Solving educational problems: the theory and reality of innovations in developing countries (Unesco, Paris 1977).

The authors present a study of the process of educational change in developing countries, explaining how educational change occurs in different settings, why it occurs in the ways it does. Among the major themes explored are the origins of innovations in developing countries, barriers to innovation, strategies of innovation and outcomes and evaluation procedures. Among the conclusions drawn are the overly ambitious nature of these innovations e.g. in terms of the massive changes expected, their lack of impact at the national level on the educational or training problems they were designed to solve, and that the unexpected difficulties encountered by many innovations could be

attributed to weaknesses in planning. The use of practical manuals which give the important steps of the innovation process, the introduction of new types of training programmes and the establishment of specialised linkage systems, argue the authors, could lead to an improvement in the practice of innovators.

18. HILL, Jason

'Junior achievement programme: preparing tomorrow's entrepreneurs' The Sunday Gleaner Magazine (Jamaica) June 30, 1985

This article traces the introduction of the Junior Achievement Programme in the United States of America in 1919 and gives an account of the pilot project initiated in Jamaica in 1983/84. Reports of interviews with company directors are given which bring to light advantages and disadvantages of the programme. Various experiences of companies attached to the schools are also highlighted. A generally positive assessment of the programme is given, but claims relating to the impact of the programme on students' employment chances clearly need to be substantiated by further research.

19. HOPPERS, Wim

'Some notes on productive activities in non-formal education' report of a workshop on Education with Production held in The Hague, The Netherlands, 21-24 February 1985 (CESO, The Hague, March 1985)

This paper focuses on non-formal innovations that offer skills training to out-of-school youths. The characteristics of these non-formal schemes are pointed up and five approaches to the organisation of work and training are discussed. These are: 'through-put', 'through-put with field practice', 'through-put training with settlement', 'semi stay-put' and 'stay-put' training. The relative merits of each of these are pointed up along with the different forms that productive activities take. The author concludes that whereas the narrow focus of non-formal training may leave gaps in the youths' understanding about production and its role in society, it may at the same time make its graduates more attractive to industry.

20. HUTCHINSON, Sonia

'An evaluation of the work-study programme at Jose Marti New Secondary school (Jamaica)' (Unpublished B.Ed. study University of the West Indies 1984)

An eclectic model influenced by the approaches to evaluation of Robert Stake and Daniel Stufflebeam was used to evaluate this work-study programme. The study revealed positive perceptions on the part of both teachers and students of various attributes (e.g. relative advantage, compatibility) of the programme. The latter, however, was affected by such difficulties as lack of equipment, and praedial larceny of crops and livestock, but it proved reasonably successful in preparing students for the world of work, although it did not live up to its main objective of attracting graduates into careers in agriculture.

21. JENNINGS-WRAY, Z.D.

'Reading interests of Jamaican primary school children'
(Unpublished Ph.D. thesis, University of the West Indies 1981).

The first chapter of this thesis gives a background to the conditions in the primary education system in Jamaica which gives rise to under-achievement in language learning and reading skills acquisition. The main emphasis, however, is on the articulation of a philosophy of reading interest which provides a conceptual framework for an investigation into the reading interests of first and fourth grade children.

22. JENNINGS-WRAY, Z.D. TEAPE, V.E.

'Jamaica's Work Experience programme Prospects Vol. 12(4) 1982
(499-509)

This article focuses on the work experience programme (WEP) implemented in Jamaican New Secondary schools in 1975. The investigation on which it is based sought to ascertain different clients' views on the most useful purposes of the WEP. Factors that militated against the achievement of the objectives of the programme and how the WEP influenced the working lives of young people were also main questions. Giving experience in the world of work, providing opportunities for practical experience in vocational fields were the main purposes that students, teachers and employers felt the WEP served. Lack of proper supervision at the workplace, having to do menial tasks shunned by other workers, lack of opportunities for getting experience in areas related to their vocational training were main obstacles to the achievement of programme objectives. More graduates of the WEP were unemployed than employed. The authors point up the need for improved organisation of the secondary school curriculum, a centralisation of vocational programmes, changes in negative attitudes towards practical/manual work and the need for employment generating strategies in any future efforts to improve the WEP.

23. JENNINGS-WRAY, Z.D.

'Education and Productive work in Jamaica' (CARNEID/Unesco) 1983

After exploring the conditions that gave rise to the need for education to be linked with productive work (EPW) in the school system, the author describes the technical/vocational institutions that have implemented EPW programmes. The Work Experience Programmes in Jamaican educational institutions are critically assessed, the work-study programmes in West Indies College, Knox College, the Jose Marti Secondary School are similarly treated. There follows a discussion on non-formal education and programmes such as the Vocational Training Development Institute, the Human Employment and Resource Training Programme and the various training schemes offered by the Jamaica Industrial Development Corporation are described. The author concludes with an assessment of the limitations and possibilities in linking education with productive work in the Jamaican educational system.

24. KNOWLES, James H.

'A case study of Education and Productive work in Antigua and Barbuda' (CARNEID/Unesco) 1985

An overview of attempts to vocationalise curricula in Antigua and Barbuda beginning in 1955 with the Princess Margaret Secondary Comprehensive School precedes a discussion on agricultural education. The more substantial part of the study deals with non-formal education. The author ends the case study with some thoughts on the future direction of EPW programmes in Antigua and Barbuda. He posits that the future augurs well for these programmes.

25. LOWE, K: MAHY, Y

The New Secondary graduates of 1976 and 1977: job expectations on leaving school and occupations six months after (Ministry of Education, Jamaica 1978)

This was an investigation of the first graduates of the grade 10-11 programme who had participated in a work experience programme. Main findings were that students of Business Education had career expectations in their area of specialisation and usually found jobs on graduation. The same applied to students of Industrial Arts, but few students who specialised in agriculture opted for careers in agriculture and those who did selected 'white collar' jobs.

26. MANLEY, Michael

The politics of change; a Jamaican testament (Andre Deutsch 1974)

The former Prime Minister of Jamaica undertook to write this book with a view to "reconsider and restate, from the standpoint of the 1970's, a philosophical road which Jamaica might explore as an independent nation" (p.11). He articulates what is in essence an ideology of Democratic Socialism exploring such themes as equality, self-reliance and the problem of attitudes, the politics of participation and social justice. In the chapter on education, he calls for a radical restructuring of the training content of the system, so as to produce people with the types of skills needed in a modern economy. He postulates a work-study ideal and stresses the need for negative attitudes towards work (especially manual) to be changed.

27. MANLEY, Michael

Jamaica: Struggle in the Periphery. (Third World Media Ltd/Writers & Readers Publishing Cooperative Society Ltd. 1982)

After leading the Democratic Socialist Government that was in power in Jamaica between 1982-1980, the author engages in 'a reflection, after the event, upon the controversy which surrounded the events of these years. He gives critical insights into Jamaica's attempts to implement that "philosophical road ...", grappling with ideology, experiencing crises with the IMF, and he brings to light the forces which, in the view of his party, attempted to destabilise the government. The author ends with a restatement of his party's commitment to the ideal of Democratic Socialism and stresses the need for collective self-reliance among Third World countries in order to pose a challenge to the world's economic super-structure and its mechanisms of control.

28. MASSEY, Romeo

Rural Education and Agricultural Program: a summative evaluation (CARE, Belize) December 1979

Following an explanation of the approach to evaluation taken in the report, the author describes characteristics of rural Belizean society and primary education relevant to the REAP evaluation. The purposes of the evaluation are delineated and procedures and milestones in the programme between September 1975 and June 1979 are pointed up. During this period, although a number of Learning Activity Packs were produced, the integration of the REAP students in the Primary School Leaving Certificate Examination is given and the positive attitudes of parents, teachers and students towards the programme are among other findings. The author, however, expressed reservations over the ability of the Belize government to finance the REAP programme without external aid.

29. MASSEY, Romeo

'A six-year formative evaluation report (July 1, 1976 to June 30 1982) of the Rural Education and Agriculture Program (REAP) (Report to CARE/REAP Advisory Committee) December 1982

As a follow-up to the preceding study, this study highlights programme milestones between July 1979 and June 1982. Each programme objective is assessed. Among the conclusions reached are that the REAP curriculum functions as a parallel structure to the established curriculum and has not yet succeeded in replacing it. The REAP curriculum, however, is being emphasised only at the senior primary level (grades 6-8). Again the author underscores positive attitudes towards REAP and posits that in spite of some problems of implementation, it has achieved goals relating to changes in diet and improved community involvement. The promotion of REAP district councils is hailed as a sign of continued expansion and institutional of the REAP programme.

30. MATTIS, Dahlia

The Vocational and Work Experience Programme in two rural new Secondary Schools in Jamaica: an assessment of its contribution to students and their communities (Unpublished B.Ed study University of the West Indies 1981)

Lack of finance and the difficulty of getting transportation to their work stations were the major problems that grade 11 students in rural Jamaica encountered in relation to the Work Experience Programme. Another main question posed in this study related to students' aspirations in relation to their vocational choices. It was found that the majority of students in all vocational areas, except agriculture, opted for careers in their vocational areas of training. Employers felt that students from New Secondary schools who had been involved in the WEP had developed favourable work attitudes but they lacked skill competence and were not really qualified for immediate employment.

31. McNEIL, Pamela

'Women's Centre Programme for adolescent mothers' (Annual Report, January-December 1984)

The coordinator describes the expansion of the Women's Centre Programme in Jamaica since its inception in 1978. The main activities of the three centres are described. Among these are a skill training programme which gives teenage mothers skills in doll-making and some instruction in the management of a small business.

32. MILES, Matthew B.(ed)
Innovations in Education (Teachers College Columbia University)
1964

This book is divided into three parts; the first dealing with case studies, the second, describing various aspects of research and theory related to educational innovation and the final part focusing on the American educational system. Among the case studies are innovations in collaborative teaching and learning and programmed instruction. Among the generalisations made are that the fate of innovations can depend on the nature of educational systems and the extent to which they promote change, the characteristics of the innovations themselves (e.g. cost and implementations supports). The infrequency of systematic evaluation, however, has proven a major stumbling block in the understanding of the change process.

33. MILLER, Errol
'Education and society in Jamaica' in: Sociology of Education: a Caribbean Reader. Figueroa, Peter: Persaud, Ganga (Eds) (Oxford University Press 1976)

In explaining the relationship between education and society in Jamaica, the author details four strata and shows how each evolved. Tables are given showing the distribution of the social classes at the various levels of the educational system. The overall conclusion drawn is that the education system in Jamaica is an agent of the social structure reflecting static elements which cannot be expected to create revolutionary or even substantial changes in the social order.

34. MINISTRY OF EDUCATION, CULTURE AND YOUTH AFFAIRS, St John's, Antigua
Technical and Vocational Education and Training in Antigua and Barbuda (September 1983)

Equipping young adults with employable skills in selected technical fields (especially the construction industry) and upgrading the skills of technical personnel already employed are among the ways, which this report describes technical and vocational education in the 1980's will make its greatest contribution in Antigua and Barbuda. The main institutions that provide technical/vocational education (e.g. the Antigua State College) are highlighted and a brief description follows of technical/vocational education in the school system. This takes the form of Industrial Arts, Home Economics, girls' Handicraft and Commercial Studies. However, the programmes are handicapped by a shortage of qualified teachers, and problems in recruiting enough students with a suitable academic background for higher level technical courses. Non-formal technical and vocational education is organised by Government Ministries of Public Works and Education, private firms or institutions, and private tradesmen. The report contains an up-date on the Pre-Employment Training Programme and makes suggestions on how regional and international cooperation in technical/vocational education can be usefully developed in the future.

35. MINISTRY OF EDUCATION, SPORTS AND CULTURE, Belmopan, Belize
'Survey of REAP school-leavers: summarised report' (1982)

This is a report of a survey of the subject preferences, employment preferences, preferred place to live, and community involvement of the first group of students to complete three years of the REAP programme. Among the findings are: i) most REAP graduates wanted to proceed to the Belize Technical College: ii) only three out of thirty-six REAP students who responded expressed interest in doing further studies in agriculture: iii) most REAP students were working on the milpa: iv) most of the REAP graduates chose to continue living in the village, except students in Stann Creek, most of whom wanted to migrate. The report concludes that although there have been some successes, disappointingly few firm conclusions could be drawn from the survey on the lasting impact of REAP on its graduates.

36. MINISTRY OF EDUCATION, SOCIAL DEVELOPMENT AND CULTURE, Georgetown, Guyana
'A follow-up study of the Community High School graduates:
Development of a tracer system' (December 1979)

This study has a brief introduction on the conditions in the Guyanese educational system which gave rise to the need for Community High Schools (CHS); a review of the literature on local studies on the CHS follows before the methodology and procedures for doing the study are described. A general favourable view of the impact of the CHS is presented and work-experience attachments are judged to be in general, relevant to pre-vocational studies. An attempt is also made to show the relationship between tasks done in pre-vocational areas and the tasks the students are required to perform in the actual work situation.

37. MINISTRY OF EDUCATION, SOCIAL DEVELOPMENT AND CULTURE, Georgetown, Guyana
'Facilities for Technical Education' (October 1983)

To improve the quality of the existing work force and to establish and maintain effective links between industrial training and the educational programmes mounted by various technical institutions are among the aims of technical-vocational education programmes in Guyana cited in this report. Technical-vocational provision in primary and secondary schools are briefly described. Included is the pilot project started in 1975 to provide an alternative to existing sixth form courses by developing relevant skills and attitudes compatible with positive participation in the hinterland thrust, and development of Guyana's natural resources. Human Ecology, Agriculture and General Technology are the three areas that form the curriculum of this Hinterland Development Programme. Programmes in post-secondary level technical-vocational education are highlighted and the report ends with Guyana's contribution to regional cooperation in technical education and industrial training.

38. MINISTRY OF EDUCATION, Planning and Research Unit, Georgetown, Guyana
(August 1985) Personal communication to author

This report gives an overview of attempts to link education with productive work in the formal education system. The justification for this approach is highlighted in a number of excerpts from speeches of past Ministers of Education. The role of the Community High School in

particular is emphasised. At the tertiary level it is pointed out that the linkage between the University of Guyana (UG) and the Guyana National Service (GNS) provides an opportunity to give training a technical and practical purpose. A condition of graduation from UG is that each graduand must be attached to the GNS (for 6 months to 1 year) to do practical work in the field of his specialisation. National Service Centres are located principally in the hinterland region and are designed to develop a pioneering spirit in the students.

39. MINISTRY OF EDUCATION, Jamaica

Five year Education Plan (1978-1983) Draft Two December 1977

This plan gives the social goals of education and shows how the problems in the educational system gave rise to the thrust towards provision of equal educational opportunity for all members of the society. Provisions for quality education at all levels of the educational system are described. These include introduction of Basic and Infant schools, re-development of existing Early Childhood curricula; modification of existing curricula at the primary level, improvements in teacher training and the implementation of a productive work programme in all secondary schools. Strategies and activities for the management of the education system precedes a final section which gives a quantitative analysis of the education system demographic enrolment forecasts and strategies for quantitative development.

40. MINISTRY OF EDUCATION, Jamaica

Work Experience Handbook: Technical and Vocational Education
(1978)

This handbook gives a detailed statement of the objectives of the Work Experience Programme, the perceived benefits of the programme to the schools, the students and the employers. The role of the Work Experience teacher is also underscored and guidelines for the assessment of students on work experience are set out.

41. MINISTRY OF EDUCATION, HEALTH AND SOCIAL AFFAIRS

Proposals for Restructuring the education system of St.
Kitts-Nevis - Anguilla (September 1976)

This pamphlet suggests that the objectives of the education system are not clearly defined and then proceeds to advocate national objectives geared to establishing a socialist system of government based on the principles of social justice, service to the community and individual fulfilment. Other weaknesses in the educational system identified include the absence of a programme to inculcate proper values, wrong attitudes to work, low levels of commitment and professionalism amongst teachers, ill effects of problems caused by poor family life and the lack of a coherent programme for continuing education. Suggestions to correct these weaknesses include: more effective participation of the schools in the cultural activities of the society at large, work (especially in agriculture) to become an integral part of school's curricula, compulsory attendance at Teachers Training Colleges for all teachers from time to time, guidance and counselling programmes to be organised more consistently in each high school college, and the introduction of programmes in family and community life education

utilising the facilities of high schools and colleges. The report ends with a statement of the core rules for schools as well as guidelines on sanctions when rules are breached.

42. MINISTRY OF EDUCATION AND CULTURE, St. Lucia
'Nature and quality of Technical Education programmes' (undated document).

This document describes the programme offerings at the Morne Fortune Technical College, Castries Comprehensive Secondary School and the St. Lucia College of Agriculture. The Technical Training College (TTC) was set up in 1971 to serve the seven LDC's of the Eastern Caribbean. Facilities at the TTC have been upgraded recently. Plans are afoot to integrate the Morne Fortune Technical College, the 'A' level College and the Teacher Training College into a Community College in order to improve offerings in technical-vocational education. The documents end with some notes on the OAS-USAID Youth Skills Training Programmes.

43. MORALES, Abel P; ARAUJO, Figueroa M.
'The combination of study and work in the Cuban educational system' Learning and Working: A Prospects Report. Zaghloul Morsy (Ed) (Unesco, Paris) 1979

The authors review the various measures taken in Cuba to link work and study at all levels of the educational system. The introduction gives the ideological and political bases of the orientation and identifies the objectives of the programme. At the secondary level, the authors describe the 'school goes to the countryside' and work-study, education in the community, the polytechnical character of instruction, training the productive student and promoting contacts between youths and agricultural workers. The concluding parts discuss technical and vocational education, the training of teaching personnel, higher and special education.

44. MUSA, Said
'Our national educational policy' (Address at the opening of the Annual conference of Education Officers, Belize City. February 1980)

In this address, the Minister of Education and Sports gives a brief outline of the main emphases in educational policy under the People's United Party. He identifies the PUP's desire to continue the long-standing relationship between the government and the Church at the secondary level of the educational system in particular, and to work towards the setting up of a university in Belize. The expansion of the Belize College of Art, Science and Technology marked the beginning of this move. The thrust in this speech is towards the integration of study and work in the educational system in order to achieve economic goals. The Minister underlined the importance of sports in education and announced the intention to develop a national sports programme.

45. PAIN, Abraham
The interaction between education and productive work.
Educational documentation and information. (Bulletin of the International Bureau of Education UNESCO, Paris, year 55, No. 225) 1982

This gives an annotated bibliography of the interaction between education and productive work internationally.

46. PANTIN, Gerard

A mole cricket called Servol: an account of experiences in education and community development in Trinidad and Tobago, West Indies. (Pergamon Press and the Bernard van Leer Foundation 1979)

In this book Father Pantin describes how in 1970, he and Wes Hall, the former West Indian cricketer, started SERVOL (Service Volunteered for all) in Laventille. He describes how this community-based organisation grew from slender beginnings to become a dynamic entity with projects in vocational training, small business, agriculture and medicine, as well as an integrated education development programme. Other programmes include an old people's project and a school for special children e.g. the hearing impaired and mentally handicapped. Difficulties encountered by the organisation and highlights of achievements are given throughout the book.

47. SMALLING, George

'The perceived relative worth of the Vocational Training Development Institute certification and strategies for its modification' (Unpublished B.Ed. study, University of the West Indies. 1980)

How the VTDI came into being, its objectives and how it compares with similar programmes in Colombia, Japan, the U.K. and Tanzania are questions tackled by the author before he proceeds to describe an investigation conducted to find out the match between the objectives of the VTDI and its testing and certification procedures. The VTDI's certification was given a medium to low rating by employers. This, suggested the author, was one reason why the graduates of the programme were having such a limited impact on the labour market. A comprehensive job analysis programme should be undertaken, says the author, to establish minimum requirements for each occupational level in accordance with pertinent occupational profiles and a national testing and certification system needs to be put in place.

48. STEWART Thelma M.

'The attitudes of parents and teachers toward vocational education in Jamaica' (Unpublished Ed.D. thesis, Walden University 1976).

This thesis traces the attempts to implement vocational training programmes in the Jamaican educational system and shows how these have been influenced (often negatively) by the attitudes of parents in particular. The investigation, however, suggests a generally positive attitude towards vocational education in the 1970's.

49. TEAPE, Veronica E.

'A study of the work experience programme in Jamaican New Secondary schools: an examination of its usefulness' (Unpublished B. Ed. study, University of the West Indies 1980)

This study investigated the similarities and differences between the views of students, practical subject teachers, supervisors, principals and work experience teachers in New Secondary Schools in Kingston on the most important purposes of the WEP, the difficulties experienced by students during work experience, and it also sought to ascertain how the WEP benefitted the working lives of past students. Acquainting students with the world of work emerged as the main purpose of the WEP, and among the difficulties experienced by students were financial embarrassment, poor supervision at the work place and lack of opportunities to gain practical experience in their areas of vocational training. Although past students felt that they had benefitted from the WEP, they also felt that the programme could be improved by implementing the WEP earlier in the school curriculum (e.g. at 7th grade). They also expressed the view that the WEP needed to be put on better financial footing. In addition, they said, improved knowledge of basic subjects could help to provide a better foundation for preparation for the world of work.

50. TURNER, Trevor A.

'Objectives and provisions for trade and technical training: the case of colonial Jamaica 1867-1920' in: Development and Disillusion in the Third World with emphasis on Jamaica. D'Oyley, V; Murray, R. (Eds) The Ontario Institute for Studies in Education Symposium Series/10 1979

In exploring the obstacles to the development of skill training in Jamaica, the author identifies the indifference of the British government and the ambivalent attitude of government towards the role of skill training institutions. Various attempts at skills training and the curricular emphasis in the institutions are discussed. Chief amongst these was the attempt to encourage handicrafts since the handicraft industry was a major earner of foreign exchange. The provisions made by government for agricultural and trade training were not designed to offer upward mobility for the lower social class and this served to reinforce existing social and economic structures. The author ends by pointing up comparisons with trade and technical training policies in modern Jamaica.

51. TURNER, Trevor, A PERSAUD, Ganga

Educational administration and management: studies on coordinated development of formal and non-formal education. 1. Non-formal education in Guyana (Unesco, Paris. 1980)

The authors commence with a presentation of a conceptual framework on the political economy and educational orientation of Guyana. Following an explanation of the research design, there is a description of some fourteen non-formal education institutions in Guyana. Amongst these are the Kuru - Kuru Cooperative College, the Adult Education Association, the Agricultural Extension Services, Linden Training Schemes and GUYSUCO. The authors conclude that "for its relatively small population of under a million, Guyana provides a fairly impressive display in terms of the number of non-formal education organisations at work" (p.45). They also point out that budgetary support for the programmes is weak, and evaluation of programmes, where they exist, tend to be impressionistic.

52. UNESCO (Paris)

Grenada Education Sector Survey: an analysis of the education and training system and recommendations for its development.
(April 1982a)

In this report, there is description of the social and economic conditions of Grenada preceding an analysis of the general education system. The Grenada Technical College, Secondary and All - Age schools, Technical Centres, the Domestic Arts Institute feature in the discussion of technical and vocational education. Among the recommendations made with respect to the latter is the setting up of a regional National Advisory body on Technical Education and Vocational/Industrial training. Included also in the report is an analysis of agricultural education from primary through to secondary level and the training provided in the Mirabeau Agricultural Training School. The report ends with some details on the work of the Centre for Popular Education in non-formal and continuing adult education. The appendix has a description of the education system.

53. UNESCO, (Paris)

Jamaica: Development of secondary education (April 1983)

This report represents the findings and recommendations of a Sector Survey undertaken by the Unesco Secretariat. From an analysis of the observed relationship between secondary education as producer of job seekers and the labour market, the report concludes that the five-year secondary programme in New Secondary schools is "ambiguous and contradictory" and results in the average grad 11 school leaver being 'ill-prepared to confront working life, vocational training or further education' (p.7). Recommendations made aim at rationalizing secondary education in order to make it more efficient internally and more relevant to the socio-economic development of the national. Suggestions are made on how this proposed rationalisation could be implemented and preliminary cost estimates for each proposed measure are given.

54. UNESCO (Paris)

Montserrat education sector survey: an analysis of the education and training system and recommendations for its development
(April 1982b)

This report commences with the socio-economic background of Montserrat and following an analysis of the general education system, makes certain recommendations. Among these is the need for improving the learning outcomes and processes in the Montserrat education system as well as the urgency to adapt the system to the needs of the country. The careful implementation of the planned Junior Secondary schools and improvement in the preparation of students in Montserrat secondary school for GCE and CXC examinations are other priorities identified. There is also in the report an analysis of technical education and vocational training. To counterbalance the academic bias in secondary education, it is recommended that a multi-purpose workshop building be constructed and equipped to provide technical/vocational education and training at central points on school premises easily accessible to a given number of feeder schools. At these workshops, instruction in construction skill, metalwork, basic electricity, basic mechanical skills and home economics

could be provided. The report also contains a section on agricultural education and training and non-formal and continuing adult education.

55. UNESCO (Paris)

St Christopher and Nevis: Education sector survey: an analysis of the education and training system and recommendations for its development (April 1982c)

This report presents an analysis of the general education system before proceeding to an examination of technical/vocational training and giving recommendations on the latter. From its assessment of agricultural education, the Unesco team concluded that it was too theoretical in its approach especially at the primary level where many schools did not have adequate land space. An overview of non-formal and continuing education is also given. Appendices include the position paper for the Unesco education sector survey team, together with a description of the education system.

56. VAN RENSBURG, Patrick

'Combining education and production: situating the problem'.
Prospects, Vol. 7(3) 1977 (352-4)

In this paper reference is made to the Swaneng Hill school project which started in 1963 with a view to providing vocational education geared to the socio-economic background of the country and intended for primary school leavers who have no opportunity to proceed to secondary education. The programme comprises productive work, on-the-job training and classroom instruction in both vocational and academic subjects. The Serowe Brigades also feature in this paper. They were based on a combination of non-formal education and production used as a vehicle for vocational training with a view to reducing economic costs. Among the conclusions drawn by the author is that the potentiality of the combination of education and production derives from the conception of education itself and the prevailing sociological and ideological framework of it. The degree of political will and commitment underlying the programme is also crucial for any education productive work programme to succeed.

57. WILLIAMS, G HARVEY, C

'Education and productive work in Trinidad and Tobago: an exploratory study' (CARNEID/Unesco) 1983

This study begins with a discussion on how 'productive work' is to be interpreted. An overview of formal and non-formal education in Trinidad and Tobago follows with special reference to the Senior Secondary Comprehensive schools and the National Training Board. There is more emphasis in the study on non-formal educational programmes e.g. as offered in the Trinidad and Tobago Hotel and Catering School and the Cipriani Labour College. Some isolated examples of on-the-job training programmes are also highlighted. Suggestions for future research in the area are given, in particular the authors suggest the need for tracer studies and more qualitative forms of enquiry.

58. WILMS, Wellford, W.

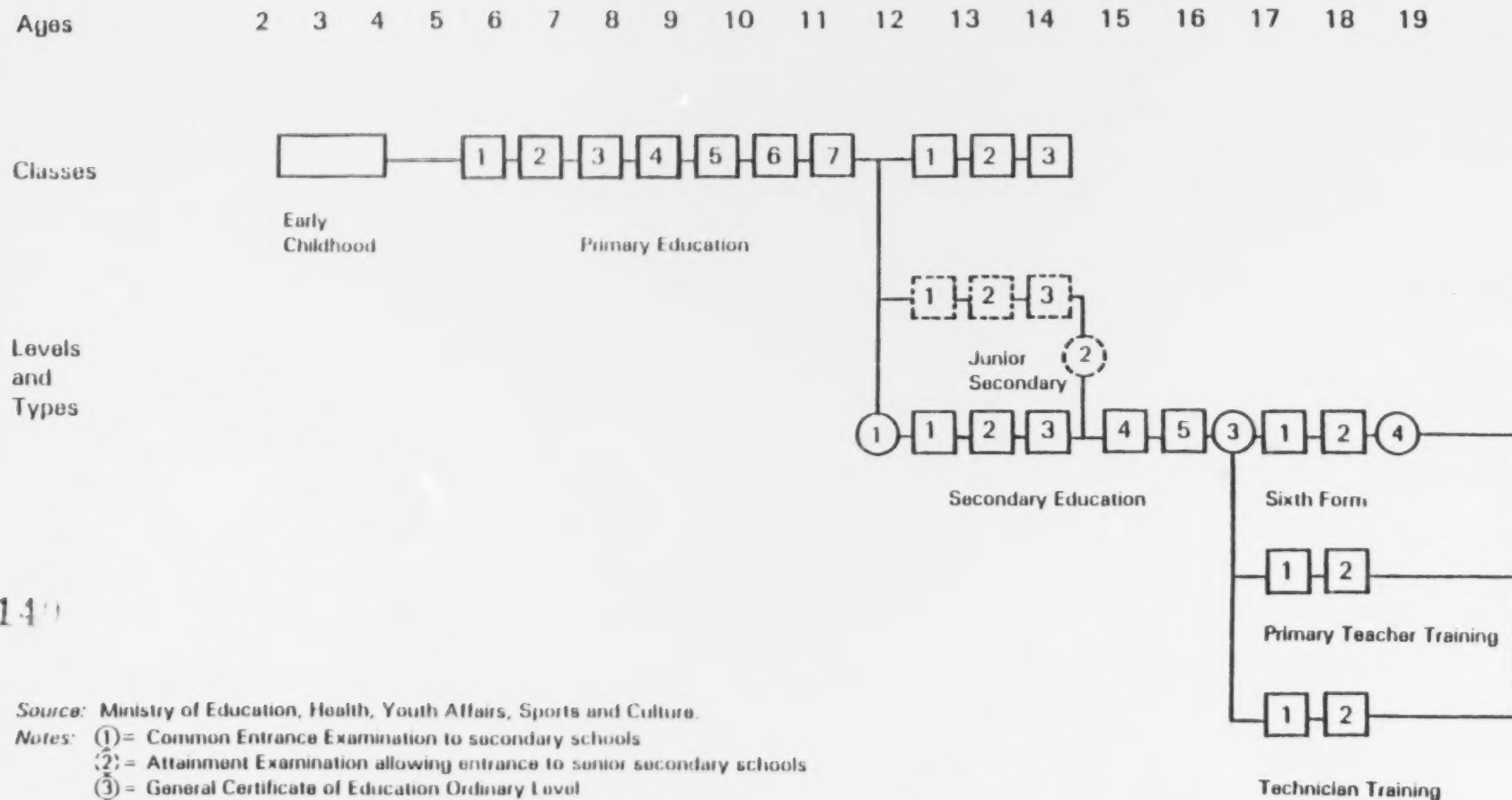
'Decentralizing and deschooling job-training: implications of selected studies from the USA International Journal of Educational Development. Vol. 3(1) 1983 (71-83)

The author reports three studies on non-formal training programmes in the USA and draws on organisational theory to explain how characteristics of these programmes that account for efficient job training appear to be shaped by market forces. The author advocates the removal of job training from formal schools so that the latter can be freed of the dual function of training and education and thus focus on improving the general education of all students. This could be a way, suggests the author, of achieving greater social equity.

APPENDIX 1 : DOMINICA

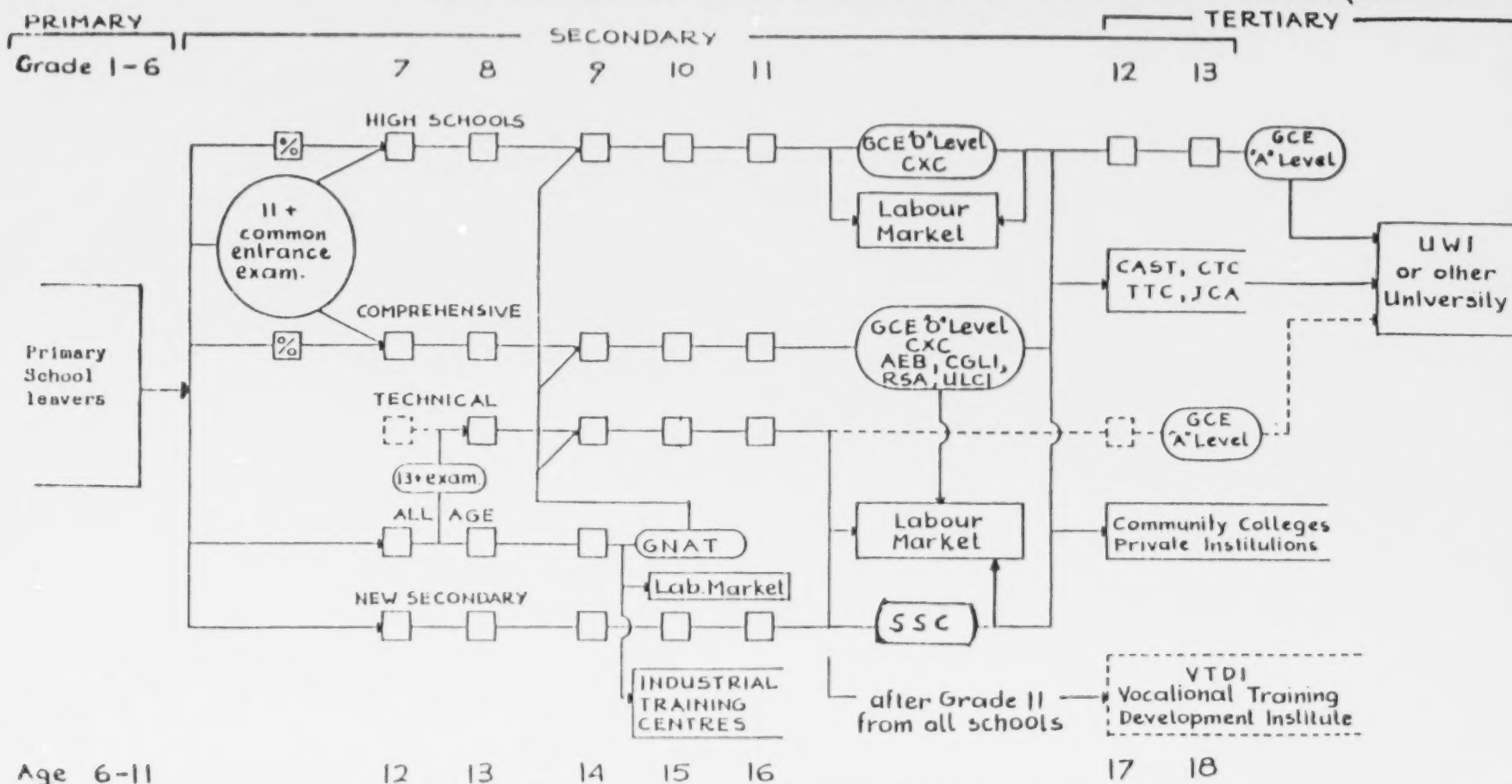
Structure of the Formal System of Education

Compulsory Education



Source: Ministry of Education, Health, Youth Affairs, Sports and Culture.

Notes: ① = Common Entrance Examination to secondary schools
 ② = Attainment Examination allowing entrance to senior secondary schools
 ③ = General Certificate of Education Ordinary Level
 ④ = General Certificate of Education Advanced Level
 [] = To be launched in 1981/82 and generalized all over the country through 1983/84

Explanations:

[] : At the school's initiative; not planned by MOE

% : Admission at the discretion of Principal

GNAT : Grade-Nine Achievement Test

GCE : General Certificate of Education

CXC : Caribbean Examination Council Examination

SSC : Secondary School Certificate

AEB : Associated Examination Board

CGLI : City & Guilds of London Instit.

RSA : Royal Society of Arts

ULCI : Union of Lancashire & Cheshire Institutes

CAST : College of Science and Technology

CTC : Cultural Training Centre

TTC : Teacher Training Colleges

JCA : Jamaica College of Agriculture

UWI : University of the West Indies

APPENDIX III: RURAL EDUCATION AND AGRICULTURAL PROJECT
LEARNING ACTIVITY PACK (LAP)

I. TITLE OF ACTIVITY

Water for the Garden

II. APPROPRIATE GRADE LEVEL(S)

Standard VI

III. REAP AREA OF STUDY

Agricultural Practices

IV. BASIC SUBJECT(S) INTEGRATED INTO ACTIVITY

Mathematics, Language Arts, Science, Social Studies

V. MAJOR CONCEPT(S) AND/OR SKILL(S)

Need for water in successful crop production

VI. PERFORMANCE OBJECTIVE(S)

Given a garden site and water source (creek, river, well, pond)
the student will be able to devise an effective irrigation system
for the supply of water during dry season.

VII. EQUIPMENT AND/OR MATERIAL

Buckets, pots, drums, hose, spade, hand pumps and mulching
materials.

VIII. READING REFERENCE(S)

Vickery Deborah & James
Intensive Vegetable Gardening For Profit and Self Sufficiency.
Page 92 to 101

Peace Corps Information Collection and Exchange 1978

IX. PROCEDURE(S) AND RELATED ACTIVITY (IES)

(A) Teacher assigns children to gather information from the
resource centre, about various irrigation practices.

- (B) Children brainstorm and select which irrigation practice would be most applicable in their garden.

Various Irrigation Practices:-

- (1) Pitcher Irrigation
- (2) Trickle Irrigation
- (3) Bamboo Irrigation
- (4) Fetching Water

- (C) Water application
Mulching can also be applied around plants to conserve soil, water and reduce the frequency of water application. Some shade around or above the plants can help in reducing soil water into the atmosphere.

X. EVALUATION

Children will be made to water plants properly and effectively in the garden.

LEARNING ABOUT SCIENCE AND TECHNOLOGY OUTSIDE SCHOOL

REPORT ON A FIELD STUDY IN KENYA AND THE SEYCHELLES

The Institute of Development Studies,
University of Sussex,
Falmer, Brighton,
Sussex

John Oxenham
October 1985

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SUMMARY

The aim of this field study was to look at the use of out-of-school education to widen opportunities and to meet needs that are not or cannot be met by the school system, with particular reference to scientific, technological and practical subjects. The fields actually looked at were Kisumu, Nyanza Province and Mombasa, Coast Province, in Kenya and Mahe Island in the Seychelles.

In Kenya, the government's agencies for out-of-school education do not deal with scientific subjects. Voluntary but government aided agencies, like the Youth Polytechnics and Industrial Training Centres do offer practical training, accompanied by the relevant science background, but their programmes can hardly be considered out-of-school, since they are organised mainly for full-time courses and are run like schools with very practical emphases.

A few exceptions occur in the cases of tailoring and dress-making courses for women. These are run for only 2 or 3 hours a day, sometimes for only 3 days a week.

A good deal of out-of-school education occurs in the urban informal sector, where 'masters' train 'apprentices', free of tuition if the latter are relatives, for a variable fee if they are not. Several crafts with heavy science or technology components are taught - radio repair, watch making - but only the skills are transmitted by demonstration. The 'masters' do not know the theory of the science.

Nonetheless, some useful projects were encountered and the following 6 points might be interesting for other Commonwealth governments to look at.

1. The Harambee movement of community mobilisation, especially for educational purposes. Other countries which value education as strongly as Kenya might seek similar means of mobilisation, if they do not already have them.
2. The willingness of families to raise considerable resources to educate their children offers possibilities of flexible partnerships between government, community and families.
3. The informal sector of employment has a considerable system of learning and instruction in operation. It is largely outside the purview of government and draws no aid from the formal sector. Government might be able to improve that education by mobilising the formal sector and without having to invest even more resources into the educational system.
4. Education-with-Production is well established outside the schools and university. Private initiatives to help learners move from full dependency through semi-autonomy to complete independence as business people should be monitored.
5. Most training in and out of school is for crafts specialists.

However, it has been observed that multi-skilled craftsmen seem to sustain themselves more easily. There may be scope for training aimed deliberately at producing multi-skilled or polyvalent artisans, where the population and economy seem unable to support full-time specialists.

6. It is clear that many educated young people are going through a prolonged and often bruising process of accomodating their aspirations to the opportunities actually on hand. The process might be accelerated and mitigated by using existing community institutions to set up vocational counselling services for students in the final (now eighth) year of primary school.

In the Seychelles, since the economy is relatively rich and two-thirds of the labour force are in the formal sector, the informal sector is small and almost invisible. Also, the government is able to provide every child with a compulsory 9 years of primary schooling and 9 out of 10 children with a further 2 years of education in the National Youth Service. Also, nearly 5 out of 10 proceed to a full secondary course, giving them a total of 13 years of education.

As part of this very generous and full provision, the Seychelles Polytechnic offers evening classes to those who wish to improve their professional qualifications. These include science and practical or technical subjects, for which the use of laboratories and workshops is arranged.

The Work Experience Programme, just begun (July-August, 1985) by the Ministry of Labour and Social Security, offers young people, mostly in the lower ranges of scholastic ability, opportunities in skills and familiarity with organisation in modern enterprises, at little direct cost to the government. It deserves to be studied as it progresses.

Education-with-Production is being developed, but with rather well educated and trained young people. Being a careful articulation between technical and sales, marketing and management skills, the project may point the way to orienting able young people to independent or cooperative employment.

ACKNOWLEDGEMENTS

The governments of Kenya and the Seychelles did not specifically ask for the study reported here. They did indeed join with other governments of the Commonwealth in indicating the desirability of such an exercise. However, their representatives may not have expected the study to be done in their own countries. It is all the more to their credit, then, that not only did they accept the study, they also went out of their way to facilitate its success. Programmes of interviews and visits were arranged at short notice, well informed officials were asked to leave their normal duties so as to escort me, transport was made available and, where possible, documentation was assembled. If this report fails to be of use to the governments of the Commonwealth, then, the fault will not be with the governments of Kenya and the Seychelles or with their Ministries of Education, who took the actual responsibility for helping me carry out the study.

For the work in Kenya, I am in the debt of Mr. D.M.Mbiti, Director of Technical and Higher Education, and Messrs. J.M.K. Sang and J.W.S.Oluoch, Provincial Education Officers of the Nyanza and Coast Provinces respectively: they were so to speak the guardian angels who arranged the framework of my visits and smoothed the way before me. I need to brigade with them Mr. P.Kinyanjuni, Director of Secondary Education, for some very helpful preliminary counsel and assistance.

In the actual road and leg work, I owe much to Mr. M.J.Imbo of the Nyanza Provincial Education Office and Mr. F.M.Ongoto, the Nyanza Provincial Youth Training Officer for their company and information in Kisumu; and to Mmes. K.A.Karim and N. Zani of the Coast Provincial Education Office and Mr. S.T.Bongo of the Coast Provincial Directorate of Social Services for their time, patience and courtesy in conducting me around Mombasa and its environs.

Mr. P. Berlouis, Director of the Seychelles Polytechnic, made sure that I took no wrong roads from the outset by actually meeting me at Mahe Airport late on a Sunday afternoon. I remain warmly grateful for that courtesy and for the efficient way my programme was arranged thereafter. Mr. J. Bonnelame, Principal Secretary of the Ministry of Education and Information, could have entrusted me to no more competent hands. The Head of the Polytechnic's Department of Continuing Education, Miss B. Quan Yat Cuone, not only proved a deeply informed and stimulating resource, but also arranged all my contacts with independent and quasi independent learners. For particularly helpful documentation, I am indebted to Mr. J. Fox, CFTC Adviser to the Ministry of Education and Information.

The study was done in both countries in relatively short spaces of time. It was not always possible to lay hold of relevant reports or other documents, nor was it always possible to return to sources to check or to fill out information. Possibilities of misunderstanding, misquoting and other inaccuracies therefore exist. Also, in Kenya, local rather than national perspectives were examined, so that comprehensiveness cannot be claimed. Nor can the observations around Embu, Kisumu and Mombasa be assumed to be representative of all Kenya. The reason for pointing this out is simply to exonerate the people who helped me from any responsibility for errors of fact, interpretation or perspective. I

am grateful to them all for what I learned and hope that this report will not prove me a slow and unreliable learner.

I am grateful, too, to the Education Programme of the Human Resource Development Group in the Commonwealth Secretariat for entrusting this study to me. I hope my findings and reflections will prove useful to them and the governments they serve, but they, too, are of course not responsible for any errors my report might contain.

John Oxenham
September 1985

CHAPTER I: THE SETTING

The field study reported here is one of two components in a review of learning about science, technology and their application through institutions and procedures outside the normal full-time school, polytechnic, college or technical institute. The other component is a review of the literature on the subject and, although primarily focused on societies in the Commonwealth, includes all societies in its purview. The field study by its nature has to be more restricted and in this case is confined to the countries of Kenya and the Seychelles.

Purpose and Scope

The purpose of the study is eventually to contribute to efforts to spread the understanding of the scientific bases of technologies in common use among young people so as to improve the productivity of employments and to raise capacities to improve the existing technologies and to develop fresh ones, even if in relatively modest ways. The method of the contribution is simply to find out what some people have been trying to do in the matter and to let other people know. If what people are trying sparks new ideas about what might be possible, so much the better. However, it needs perhaps to be stated explicitly that the purpose of this report is by no means to advise the governments of Kenya and the Seychelles or any other agencies in the countries on what they might be doing. On the contrary, it is to use the experiences and experiments of those two countries to help other countries in their thinking.

The reasons for selecting Kenya and the Seychelles as the two areas to be studied were simple. Both countries are prominent among those which have not only invested heavily in schools and full-time education, but have also been striving continuously for educational improvement and reform. Simultaneously, they have been deeply concerned about the employment of young people and have developed many experiments to help the construction of decent and satisfying livelihoods. They have of course also stressed the importance of science in the enhancement of productivity, employment and development.

An additional reason for looking at the Seychelles is that it is one of the 'Small Island States', whose particular problems of scale and accessibility have attracted special attention over the past decade or so.

The emphasis of most recent research, thought and writing about education and employment has been on rural populations. There is good reason for this. On the one hand, the populations of most developing countries are rural and large proportions of the national income and subsistence are generated through rural occupations. On the other, however, much of the benefit of socioeconomic development has accrued to the minority urban populations and encouraged large drifts to the towns. Some counteraction has been necessary. This study should perhaps be part of that counteraction. However, it is not, and the reasons are

precisely those which help explain 'urban bias'.

If there are actual programmes of out-of-school learning in science and technology, they are likely to be found where there are concentrations of populations, i.e. towns, whether large or small. Rural programmes are likely to be few and far between, - indeed, none could be named by informants in Kenya and the Seychelles. If there are independent learners of science and technology, they are not likely to be known to the authorities and need to be sought out. They are more readily encountered in the streets, markets and industrial areas of towns than in small and scattered rural settlements. Moreover, a rationalistion is available: if the towns prove sterile, the rural areas will be even more so; whereas, if independent learning were discovered to be flourishing in the towns, a sortie into rural settlements might prove fruitful. As will be seen, the towns did prove largely sterile, so that a reasonable supposition is that any time spent on rural parts would have yielded very low, possibly nil, returns.

This field study focused on two towns and their peri-urban satellites, but garnered a little bit of extra grit from a third town and the capital city. The main centres of observation were Kisumu, the chief town of the Nyanza Province in the extreme west of the country, and Mombasa, the chief port of the country and chief town of the Coast Province in the extreme south-east. Subsidiary observations were made in Embu, the chief town of the Eastern Province and in Nairobi.

In the Seychelles, the study was confined to the main island, Mahe, on which some 90 per cent of the population live, and more particularly to the Mont Fleuri area of the capital, Victoria.

As hinted earlier, the stress of the study is less on formal policies, statistics and magnitudes and more on ideas, possibilities and feasibilities: how do, how might, young people out of school improve their grasp of technology and the science behind it so as to improve their own incomes and welfare?

The young people in question are those between the ages of 15 and 25 years, who have at least completed a course of primary schooling. The boundary of age is set, because a person with complete primary education in Kenya would be at least 12-13 years old, but more likely 14-15, as those who finish at the earlier ages tend to come from the richer social groups and upper bands of scholastic ability, and hence to continue into secondary school. Those out of school will tend to have started primary school later, to have repeated a year and not to have done well enough to qualify for a government secondary school. In the Seychelles, as the primary school course is now 9 years long, a completer is likely to be at least 14 years old. The completion of primary schooling is set as a qualification because it is assumed - with some justification, as will be seen later - to be a fairly necessary preparation for understanding the scientific bases of particular technologies, particularly those to do with electric and electronic work.

Although full-time education is excluded, curricula which are part of full-time courses but which are being pursued on a part-time basis are included. So studies aimed at ordinary secondary school graduation are of interest, whether in single subjects or a set of them. The part-time

form could of course be through evening-classes, short blocks of time like summer schools or more independently through correspondence courses or individual study.

A particular interest is taken in what young women out of school are learning about technology and science. There is a supposition, declining but still apparently widespread, that the technological areas are of little interest to women. This report will look at the current situation in the two countries.

Method

Given the amount of time available - 10 days in Kenya, 5 in the Seychelles - the field study had to be more of a rapid fact-finding visit than a careful enterprise in research. The main instruments of investigation then were documents such as reports and casual newspaper articles, interviews with officials responsible for the education, training and employment of youth, visits to institutions catering for youths who have left the normal school system and interviews with young people encountered in various forms of independent or self-employment. In selecting such employment, I aimed at occupations where a knowledge of science would be clearly helpful, and avoided those, like simple selling or cooking, which made no obvious call on scientific knowledge. I also called on a couple of book-shops to enquire about sales of scientific and technological literature to people not enrolled in schools or polytechnics.

In the Seychelles an attempt was made to trace a few of some 400 students who had dropped prematurely out of their courses, but this proved unsuccessful.

The approach then was largely informal and unsystematic in the sense that no statistically rigorous samples of people were selected for standardised interviews.

The Two Countries

As Table 1 shows, Kenya and the Seychelles are two contrasting countries. In terms of population and population growth rates, life expectancy, per capita incomes, the importance of agriculture and industry in the economy, they are very different. Indeed, they can be said to represent rather different groups of countries within the Commonwealth. Particularly relevant to this report is the proportion of people in the formal or recorded sector of employment. In Kenya, those in self or family employment in small scale agriculture, rural non-farm occupations, pastoralism and the urban informal sector still account for over 80 per cent of the labour force. In the Seychelles, they account for less than half that proportion, only 37 per cent, a minority, even though a large one. This difference is clearly influential in the determination of both employment and educational policies. Both governments and their societies want the formal sector eventually to cover all but a small minority of the work force. However, only the Seychelles can afford to plan almost exclusively for that target. Kenya does plan to expand the formal sector but must simultaneously plan for all the others as well. How that is done affects the educational system.

Table 1: Skeleton Comparison of Kenya and the Seychelles

	<u>Kenya</u>	<u>Seychelles</u>
Population (1983) in '000	18,900	64
Population Growth Rate (1973-83) per yr	4.0%	0.7% net 1.9% (before emigration)
Crude Birth Rate per 1000 (1983)	55	26
Life Expectancy at Birth (1983)	All	57 yrs
	Females	59 yrs
	Males	55 yrs
		66
Work force (age group 15-64 yrs as % of total population)	46	58
Participation rate - % of 15-64 yrs seeking remunerative employment	85	73
Work Force in Formal Employment %	16.4	63
Work Force in Self or Family Employment %	83.6	37
GNP per capita (1983) US\$	340	1,995
GNP per capita growth rate 1965-83	2.3%	-
Agricultural production as % GDP	33	9
Industrial " " " "	20	40
Services " " " "	46	51
Government Expenditure as % GNP	32.9	42.5

Sources: World Bank Development Report 1985

Kenya Development Plan 1979-1983 and 1984-1988

Abstract of Statistics, Seychelles Dec 1983

On the importance of the education system and of a well schooled population the two countries are in accord. Table 2 demonstrates this.

Table 2: Education in Kenya and the Seychelles

	<u>Kenya</u>	<u>Seychelles</u>
Expenditures on education as % of government expenditure (approx)	29.7	28.6
Primary School Gross Enrolment Ratio	104	100
Secondary School Gross Enrolment Ratio (approx.) (first two years only)	20+	80

Sources: World Bank Development Report 1985
Kenya Development Plan 1979-1983 and 1984-1988
Abstract of Statistics, Seychelles, Dec. 1983

The proportion of national resources the two governments devote to education are among the very highest in the world and both have been among the few leaders among the African states to have approached the goal of Universal Primary Education by 1980. The Seychelles is able both to offer a 9-year course of primary education to all its children and to make participation compulsory. Kenya is now able to offer an 8-year course free of tuition charges, but cannot make participation compulsory and has to tolerate some premature desertion. That the government is not simply supported but actually pressed by its people in the matter of education is reflected in the extraordinary vitality of the Harambee secondary schools and the spread of Youth Polytechnics, which have to be paid for almost entirely by the students, their families and their communities. At secondary level, the Seychelles is able to offer through its National Youth Service two years of broad based general education combined with boarding school discipline and elements of self-reliance to the entire 15 and 16 year age groups. As participation is voluntary, not every young person enters, and the drop-out rate at the end of the first year seems at present to be around 10-12 per cent. However, as participation and completion are necessary qualifications for further study and secondary graduation from the Seychelles Polytechnic, a very high proportion do complete.

Both governments are preoccupied both with the coverage of the schools and with the quality of their instruction. Both are investing heavily in the reform and improvement of curricula, texts, other materials and teacher training. Kenya has only very recently extended the primary school course to 8 years and the full primary and secondary course to 12 years (from 7 and 11) and shrunk the pre-university and usual university courses from 5 years to 4 years. It is still therefore in the throes of adjusting to the changes. The Seychelles began its radical reforms of education in 1980 - extending the primary course from 6 to 9 years, taking the next 2 years out of the school system into the National Youth Service, while retaining a substantial core of academic education, and placing the final 2 years not in the usual secondary school, but in a national polytechnic. Not surprisingly the process is not complete and there are still worries about quality, attainment, the correct balance between areas of education, methods of assessment and so on.

As the previous paragraph might hint, it appears that the needs of the full-time system absorb resources and energy to such an extent that little in real terms is left over for anything part-time. This is not to say that the potential of part-time learning to contribute to development or the need for it are not recognised; or that no provision at all is made for it. The issue is simply one of priority: few people within government are allocated to foster part-time or independent learning and few resources can be spared for it. What provision there is will be discussed in a later section.

Both governments, like many others, have distributed responsibility for different institutions of learning to different ministries. (This discussion excludes all in-service training arranged within employing agencies and all specialist extension services.) Kenya's Ministry of Education, Science and Technology deals with what might be called the mainstream institutions: schools, technical institutes, national polytechnics, the universities. The Ministry of Culture and Social Services looks after the Youth (formerly Village) Polytechnics, Women's Movement, Adult Education (mainly for basic literacy) and Family Life Education. The Ministry of Labour has charge of industrial training and is concerned almost exclusively with employers and employees in the formal sector. Within the purview of the Ministry of Education, Science and Technology, only the University of Nairobi's Institute of Adult Studies appears to be involved in part-time learning through evening classes, occasional lectures and distance or correspondence education.

In the Seychelles, the creches, the 9-year Primary Schools (age 6-15) and the Seychelles Polytechnic (age 18-21+) with its Department of Continuing Education are the responsibility of the Ministry of Education and Information. The National Youth Service (age 16-17) is responsible to the President through a governing body on which are represented among others the Ministries of Education and Information, Youth and Defence and Labour and Social Security. This last Ministry, Labour and Social Security, takes responsibility for young people who do not come under the umbrellas of the other two and has a special brief to create employment. Its brand new Work Experience Programme will be looked at in due course.

The issue of having to distribute and carefully delimit related responsibilities between virtually independent agencies, while simultaneously having to maintain some degree of reciprocal communication and coordination between them and at the same time ensure that problems do not fall into neglect between stools, is of course well recognised by both governments. The network of interministerial committees is an acknowledgment of it and the time spent on meetings one of its costs. Similarly, the reshuffling of tasks and functions between ministries from time to time and the occasional creation of new agencies are symptoms of dissatisfaction with one set of arrangements and of strivings to achieve a better. Even so, it is remarkable that the ministries of education of both governments do not have responsibility for what can be regarded as highly important sections of youth development.

The Kenyan ministry leaves the Youth Polytechnics and other forms of non-scholastic learning to the Social Services. It can cope with only that 20-25 per cent of an age cohort who manage to enter secondary

schools. The reasons seem to be partly the already heavy load of work, partly the view that non-scholastic learning tends to be rather narrowly focused training - rather than broader education - which the ministry is not equipped to supervise, and partly the desire to detach non-scholastic learning from aspirations for already scarce employment in the formal sector. The Seychelles ministry hands its 15 year olds over to the National Youth Service and takes back about half the cohort 2 years later, provided they have completed their service satisfactorily. What is remarkable about the 2 years of service is that, although they are special and out-of-school, they nevertheless devote two-thirds of their time to school subjects, taught by normally professional school-teachers. Nevertheless, the Ministry of Education is not directly responsible for them.

A final observation on similarities: both governments are oriented to the specialisation of occupation or profession, as indeed are perhaps all others. Young people tend to be trained as carpenters, electricians, nurses and so on. True, in both educational systems, opportunities are offered or imposed to try out for short periods ranges of occupational skills, before one set is selected for specialised focus. The first year of the Seychelles National Youth Service, for instance, has 40 per cent of its time allocated to 3 "blocks": a term on agriculture, livestock and fisheries, a term on construction - technical drawing, woodwork, masonry, plumbing and electricity - and a term on health, food and first aid. Each student spends a term on each "block". Following observation and diagnosis during this first year, each student negotiates for one of 5 more specialised channels during the second year. Such a pattern of gradually narrowing and intensifying education and training is of course commonplace and appropriate to economies which can keep restricted specialists fully employed. However, in Kenya at least and possibly also in the relatively tiny economy of the Seychelles, young people find they are called on to undertake a variety of tasks. Graduates of Youth Polytechnics report that they secure contracts more easily, when they can accept a whole construction package, rather than only the woodwork, or only the masonry. The first year of training is, so to speak more relevant to their actual livelihoods than the second.

This orientation accompanies the tendency to think mainly in terms of wage or salary employment in the formal sector and in terms of skilled manpower for the modernisation of the economy. This follows naturally from the view that an expanding modern, formal sector is as important to overall development as primary production through agriculture and fisheries. It draws added urgency from the fact that both modern sectors complain that growth is retarded by shortages of skilled manpower, despite high rates of unemployment among primary and secondary school-leavers. Both modern sectors have consequently to be permitted to import skilled personnel at relatively high expense, ie, to give foreigners work, even while fellow citizens lack livelihoods. For instance, a high proportion - reportedly close to 90 per cent - of the trained teachers in the Seychelles National Youth Service are non-Seychellois; and even the Harambee secondary schools of Kenya are driven to bring in mathematics and science teachers from abroad. The preoccupation with the formal sector and its stress on specialisation then is easily understandable.

That notwithstanding, it needs to be emphasised that both governments do explicitly acknowledge the importance of family and self-employment or the informal sector. Kenya has included some attention to it in its past three development plans and has taken steps to encourage rather than harass it. The Seychelles National Development Plan for 1985-89 has this to say, "Less attention has historically been paid to non-formal employment" (p.45) and proceeds to mention collection and marketing facilities, supplying raw materials needs, advisory services. Both governments are alive then to the need for "job creators, not just job seekers". And even those who create jobs only for themselves are preferable to those who remain unemployed. Nonetheless, as will become clear, economic policy appears to be somewhat ahead of policy and measures for education and training for the independently employed who might also be independent learners.

A final observation on differences: the two governments diverge in their policies on private or non-government education and training. Kenya permits local communities, voluntary agencies and private entrepreneurs to initiate and conduct educational institutions. Ideology, financial constraints and the public demand for education combine to necessitate not merely tolerant permissiveness, but actually liberal support, provided certain standards are satisfied. In the Seychelles, on the other hand, ideology and financial capability enable the government to prohibit any form of non-governmental educational institution.² The consequence of the difference is that there can be found in Kenya numbers of local small-scale, useful and interesting projects for various kinds of part-time or independent learners, some of them enjoying assistance from the government after proving themselves, others surviving without it. None such were reported or encountered in the Seychelles: all initiatives seemed to spring from the government.

Fresh Initiatives

A finding, surprising at first glance, is that a number of projects in learning technology and science are very new. As can be seen from the vignettes at the end of this report, some have been started only in 1985. On the other hand, the problem of enabling schooled youths to learn 'modern' livelihoods, whether through scientific farming or through some more recently created occupation like electrician or knitting machinist, is not new. In both countries, it pre-dates political independence and has been lived with a long time. The list of plans and projects to tackle it is also long. The apparent paradox is easily explained, of course. Previous attempts to promote such learning, although possibly successful within the limits of the resources and scope allowed them, have simply not been successful enough. The problem persists and in some senses even worsens. In this perspective, the persistent emergence of fresh initiatives is not surprising.

On the other hand, it is sobering. For it seems to suggest that, under present conditions, the problem may be insoluble. Most initiatives, lively, innovative and interesting as they can be, seem unable to reach more than a small proportion of the population affected. The difficulties certainly lie partly in the lack of resources. They seem to stem, too, from what might be called institutional biases: a large-scale programme seems to be unable to reproduce the effectiveness

of a smaller pilot. Even the multiplication of several small-scale projects patterned on a successful precursor does not guarantee equal satisfaction. The Youth (Village) Polytechnics provide an illustration. Each is the responsibility of a local community, with its own board of governors. Its manager and teachers are selected and engaged by the governors, and depend for their salaries on their success in maintaining the confidence of their learners and community. The government's only interventions are a grant to assist with salaries and supervision to ensure that the grant is justified. Many of the polytechnics are very good, others have disappointed their founders and clients and failed to attract government support. Much seems to depend on the vision, commitment, persuasiveness, leadership and persistence of particular individuals and groups.

The Seychelles Work Experience Programme

In this respect, the development of the just introduced Seychelles Work Experience Programme will be of crucial interest. The initiator is the government, the immediate sponsor and organiser is The Ministry of Labour and Social Security. The Programme is not being piloted. Instead, it aims to absorb all young people between the ages of 15 and 21 years, who are looking for employment. They are thought to number some 1,500, representing some 15 per cent of their age group. The design is to place them with employers for periods between 1 and 4 years, depending on their age and education, in order to sample and develop skills and to gain experience of the social requirements of wage employment. The employers will be expected not only to arrange interesting and useful programmes of learning and experience, but in addition to use the young people's developing skills and to pay them a minimal wage ranging from SR.400 to SR.700 per month, again depending on age and education.

Five major points to follow will be

- there are no charismatic individuals exclusively devoted to the programme: how will civil servants with other routine functions implement, encourage, guide and supervise an imaginative but demanding programme?
- comprehensive coverage is being attempted: what will be the balance between successful implementation and dissatisfaction?
- the employers, public or private, appear not to have taken the initiative, but are expected to volunteer their participation, to design the required schemes of learning and experience and to meet all the costs: what will be the balance between enlightened, cooperative response and sullen foot-dragging and impatience?
- the young people will be receiving both training and subsistence at no obvious cost to themselves or their families, but the training may yield no obvious accreditation and the wage is small: what will be the balance between a sensible, willing cooperation with opportunity and a half-hearted, formal attendance at the workplace?
- at the end of their period in the Programme, what proportions of young people will be recruited into full-time wage employment, or feel equipped and inspired to develop their own forms of self-employment, or revert to unemployment?

Whatever the experience of the Seychelles government, it will have valuable wisdom to share with the rest of the Commonwealth.

Initiatives in Part-time and Independent Learning

A feature of most of the initiatives is that they tend not to include part-time or independent learning. They choose full-time attendance at a central institution instead. There are exceptions.

Most obvious were the evening classes organised by the Department of Continuing Education in the Seychelles Polytechnic and the Institute of Adult and Distance Education of the University of Nairobi. Language and arts subjects seem to be the major demand. The Institute of Adult and Distance Education indeed organises no classes for science, technical or practical subjects. The Seychelles Polytechnic does, but as Table 3 shows, enrolments tend to be modest. Both institutions in fact find that effective public demand - i.e. people who both want and can pay for their courses - is restricted. In the year 1978-79, for which the Mombasa branch of the Institute of Adult and Distance Education could supply figures, the highest enrolment in any one term was 498, distributed between 28 classes. The highest enrolment was 48 for Book-keeping, Commercial Knowledge and Commercial Arithmetic. The lowest was 4 for Accounts (CPAI). At present, July 1985, the total enrolment in Continuing Education at the Seychelles Polytechnic is in the region of 300.

Both centres find that almost all of their learners are in salaried employment and are following the courses to improve their formal qualifications and hence their eligibility for salary increases and prospects for advancement in their careers.

Table 3: Enrolments in Part-Time Courses in Science and Technical Subjects at the Seychelles Polytechnic Department of Continuing Education, July 1985

<u>Subject</u>	<u>Enrolment</u>	<u>Females</u>	<u>Employed</u>	<u>In Training</u>
Biology 'O'level	9	7	8	1
Chemistry 'O'level	10	8	-	-
Physics 'O'level	16	12	16	0
Technical Drawing				
'O'level	9	0	9	0
Fitter-Turner	5	0	5	0
Motor Mechanics	12	0	12	0

Source: Department of Continuing Education, Seychelles Polytechnic

Neither centre had been requested to organise courses on special areas of applied science or new technologies. Their programmes tended to be resource-led in the sense that they advertised what they could readily offer and then acted according to the public's response.

The Seychelles Polytechnic had undertaken a survey of possible demand for distance education on the islands of Praslin and La Digue. The method had been to ask the secretaries of the local branches of the political party to sound out their local constituencies. A total of 28 replies were received, none of which mentioned a science or a technical subject. Only 5 of the respondents in any case said they felt prepared to undertake education by correspondence. Other exceptions concerned only women. These were exclusively courses in sewing, dressmaking,

tailoring, homecraft, nutrition and health. At the Mombasa Community Centre a curiosity was encountered. The full-time, 6 hours per day courses in leather-work and carpentry required a fee of K.Sh.900.00 per year and in return provided tuition with the necessary working materials. The part-time course in dress-making offered only 2 hours tuition per day and required that its learners, all women, supply their own materials. The fee charged was not, as might be thought, less than K.Sh.300.00 per year, but actually K.Sh.840.00! The anomaly had not been noticed.

Provision for Young Female Learners

As the previous paragraph will have intimated, young women tend to be found congregated in what have conventionally been considered women's areas - home economics, sewing, tailoring, dress-making, secretarial work. In the women's groups, also, the organisers seem to stick mainly to these occupations, with the addition of some basketry, pottery, clay modelling, and in some cases vegetable production and 'zero grazing' milk production.

While that is true, it is also true that times are changing. The Christian Industrial Training Centre in Mombasa for instance has 12, about a third, of its girls learning welding, plumbing, decoration and sign-painting. In fact, the centre opened itself to training young women only in 1984, so it seems to have taken 2 strides in one. Even more positively, the Mazeras Youth Polytechnic outside Mombasa tries to induce young women to enter its courses in electrics and electronics: it offers any such entrant tuition free of charge. In 1983, they succeeded in enrolling one girl, but no other had the courage to follow her in either 1984 or 1985.

While no such instances were encountered in the Seychelles, change is clearly in progress there also, as the figures of Table 4 suggest. Among the registered unemployed on 31.12.83 there were 3245 women vis a vis only 3164 men, which suggests that women are entering the labour market in high proportions. Although the distribution of "jobs preferred" largely reflects the traditional division of labour - women are the majority in the service, clerical and sales categories - it is interesting that in the Professional/Technical category women and men in both the adult and youth groups appear in roughly equal numbers.⁵ On the other hand, a further interpretation is that lower proportions of women probably try to enter the job market, so that their outnumbering men suggests that they are still probably more unsuccessful in securing employment. That is, the positive sign is offset by a negative, warning against undue optimism.

Table 4: Seychelles Registered Unemployed at 31.12.83

Category	Males			Females			Total
	Youth	Adult	Total	Youth	Adult	Total	
Prof/Tech	36	135	171	44	132	176	347
Admin/Manag.	2	36	38	3	6	9	47
Clerical	16	257	273	68	477	545	818
Sales	3	37	40	29	348	377	417
Service	12	418	430	77	1459	1536	1966
Agricultural	5	41	46	2	24	26	72
Labourer	201	1965	2166	36	540	576	2742
Total	275	2889	3164	259	2986	3245	6409

Source: Seychelles Abstract of Statistics 1983

CHAPTER 2: CURRENT PROVISION

Within these broad settings are the detailed provisions each government and each society makes for those who want to learn. This short chapter will sketch the two situations and attempt to give some idea of the actual demand for opportunities to learn.

Premises, Equipment and Materials

Since most provision for non-scholastic learning in Kenya is full-time, special centres with appropriate equipment and materials have necessarily to be provided. As most of the part-time learning for women is arranged during hours which coincide with those of the schools, - for an obvious reason, - special centres and equipment have again to be arranged. There is no use of school premises and facilities for these non-school purposes.

However, the Institute of Adult and Distance Education in Mombasa does not have sufficient premises of its own for its evening classes and so does borrow class-rooms in a number of high-schools. As it does not offer courses in science and technical subjects, it of course does not make use of laboratories and workshops, and apparently has not done so since the early 1970's. If I understood the point correctly, it may even be official policy not to organise part-time teaching in science and technical subjects, because of earlier experiences over the misuse of facilities and the difficulties in getting damages and losses repaired or replaced. As far as anybody in the Coast and Nyanza provinces could tell, no school, - and certainly not the technical high schools, - permitted the use of its laboratories or workshops by outside learners.

If such a situation prevailed throughout the country, it would suggest that a proposal in the National Development Plan for 1979-83 had met with disappointment:

"The Government proposes to establish a pilot project at Thika Technical School to offer holiday courses in trade skills to people working as technicians in the informal sector. It has been discovered that there is considerable under-utilisation of expensive equipment at most of the technical and industrial schools. The outcome of this experiment will determine the manner in which facilities in other technical schools are utilized in future: (Vol.I, Ch. 5, para.5.116).

These words suggest that the Kenya government saw no objection in principle to the use of school facilities for non-school science and technical education. On the contrary, it saw much virtue in expanding their utilisation. Unfortunately, what happened to prevent the dissemination of this intent to the Coast and Nyanza provinces by 1985, was not known. (The silence of the 1984-88 Development Plan on the matter would seem to confirm that the pilot project may not have made headway.)

The non-governmental centres like the Youth Polytechnics also do not make their facilities available for part-time courses, even where

electric or other artificial lighting is available. Nor, so I was told, do their staff undertake part-time teaching.

The Seychelles Polytechnic offers science and technical subjects, as has been seen, but does not need to call on the facilities of other institutions. Its own premises at Mont Fleuri in Victoria and its workshops at its main campus at Anse Royale are more than sufficient to meet the present demand.

Demand, Need and Supply

A little earlier, an attempt by the Seychelles Polytechnic to assess possible demand for distance education was recounted. This was the only such effort encountered in both countries. Determining what demand or need there might be for education and training appeared to be the outcome of negotiation between three considerations: informed discussion among educators and people familiar with particular localities, the teachers and teaching facilities likely to be available and actual applications for courses advertised. Suggestions from the general public, solicited or unsolicited, appeared to play a very minor role, - although indeed a couple of instances were mentioned at a Youth Polytechnic near Kisumu and at the Seychelles Polytechnic. However, nobody could recollect proposals for what might be called science based occupations. As far as could be ascertained, there had been no attempt at investigating what people might be learning on their own and whether any contributions through organised education might be helpful.

Nor, in Kenya, did there seem to be any follow up on the actual observations, - admittedly unsystematic, - of managers of Youth Polytechnics that minorities, possibly majorities, of their graduates were not setting themselves up in business in the crafts they had learned and that many graduates, - as remarked earlier, - were forced to function not as specialised craftsmen, but as all round or omni-competent constructors. At their face value, the observations would suggest that the polytechnic training was not wholly amiss, but was not quite hitting the nail on the head. It might be in need of redesign.

Extending this point is the puzzle that every Youth Polytechnic visited is teaching a standard core of three subjects for the young men, carpentry, masonry and metalwork; and needlework, sewing and clay-work for the young women. Electrics, electronics and other subjects may also be offered, but the core seems to be universal. The managers explain that the governors have decided that these in fact are the needs of the locality. Yet it is at least possible that one factor pushing young people away from the craft in which they have trained, is an oversupplied market.

A counterpoint could be made. It is a fact in Kenya that virtually all of this non-school education has to be financed by the leavers, their families and their communities. The cheaper polytechnics and other centres might require K.Sh.600.00 (c. US\$40.00) or so per annum. Some of the more expensive can charge around K.Sh.2000.00 (c. US\$133.00) per annum. The magnitude of that sum is best appreciated against the Kenya government's estimate in 1979 that 1,404,000 households of 4 to 5 persons each were earning an average household income of K.Sh.1,880 (c. US\$125.00) per year, about K.Sh.470 (c. US\$31.00) per person. No family

would pay the fees charged, unless there was a reasonable hope of a useful training. The inference must be that the polytechnics and other centres cannot be too far off target.

While this is certainly a valid point, its force may not be quite as strong as it appears. For more than 20 years now, families have known that a full secondary education up to 'O' level can no longer guarantee a job in the formal sector. The level of unemployment among Form 4 or 'O' level graduates has been virtually abandoned as a problem beyond government's power to cure rapidly. Yet the secondary school enrolments continue to grow, communities continue to build new schools and even import teachers from abroad. First year enrolments now amount to some 100,000 per annum, perhaps 15 per cent of the appropriate age cohort. Youth Polytechnics supported by the government by contrast seem to enrol in their first year fewer than 20,000 per annum. Unaided polytechnics may take in another 15-20,000, but no figures are available. The inference may well be that parents wealthy enough to pay for some education, will pay for any education they can get their children to enter. As 85 per cent of a cohort simply have no secondary place open to them, a course in a Youth Polytechnic or industrial centre may appear a reasonable alternative, for it at least offers some official accreditation at the end. Such reasoning may help explain why some Youth Polytechnics are deemed unsatisfactory, but continue to exist.

The willingness to pay for training, even when the quality is not guaranteed and even when no formal accreditation is available, has been documented in Kenya by Kenneth King (1977), in West Africa by several writers, including Archibald Callaway (1974), Margaret Peil (1979), O. Oyeneye (1979) and Stephen McLaughlin (1979). That willingness persists in Kenya today. Young watchmakers, radio technicians, carpenters, tinsmiths, locksmiths, masons, interviewed in Embu and Kisumu say that they have paid between K.Sh.1,000 and 2,500 (c. US\$67.00-US\$167.00) for training lasting between 6 months and 3 years. They have attached themselves to experienced craftsman, learned whatever they could and then set up their own small businesses. That is, their need caused them to reach out for whatever seemed available and plausible, even though it was not officially guaranteed. Payment then seems to be more an expression of need and determination to do something about it than a sign of confidence in quality or even eventual relevance.

The brevity and extremely restricted scope of the study makes any inferences perilous and necessarily tentative. However, if what was found is in fact typical of Kenya in general, then the supply of training for independent learners does seem to match actual demand and opportunities only imperfectly.

CHAPTER 3: THE LEARNERS

True Independents

The final paragraph of the last chapter introduced a new class of learners. They really are independent. They owe their learning neither to government, nor to non-governmental agencies of full or part-time education and training. They articulated their own needs, identified an avenue, (possibly second best or even last resort), for meeting it, paid for their tuition, pursued it to some sense of satisfaction and competence, and finally applied their freshly acquired knowledge and skills to making their livings. They were singled out because of their reported willingness to pay substantial sums to learn. But they might in fact be a minority among similar independent learners. The majority may be equally independent of government and other educational institutions, but pursue their learning free of tuition fees with relatives or close friends. Of 19 self-employed young craftsmen interviewed in Kisumu only 5 had actually paid for their tuition. The other 14 - 74 per cent, to express it in somewhat spurious statistical terms, - had been taught by relatives.⁶ In effect, there is a demand, - or need, if the term is preferred, - for learning, which is creating its own satisfaction in ways convenient to itself. It either does not look to governmental and other institutions, or, having looked, has turned - or been turned - away disappointed.

The ambivalent phrasing of the last sentence reflects the diversity of experience among these independent learners. A minority of them had tried to gain entry to technical institutes, but had not been successful. One or two had approached government offices for advice but had met "beating about the bush". The rest did not know whether there were any schemes or institutions, which might be useful to them, and apparently had not enquired either. There seemed to be a widespread view that government institutions were not interested in helping people like themselves: a "route" or personal connection with somebody influential was frequently said to be necessary even to secure a meeting. An example confirming the tendency of government officials to fob people off occurred in my presence. A girl, who had completed secondary education, was working on her father's farm. She helped with the fruits and she maintained the farm's records and accounts. She had applied for entry to a number of the agricultural colleges but had not been successful. She now wanted a course which would enable her to take a more understanding part in helping her family to manage its farm. The agricultural officer's immediate response was to advise the girl to travel to the district headquarters in 6 months' time to see what courses might be available. He made no note of her name or particular requirements.

On the other side, there were two examples of government departments responding positively to requests 'out of the blue'. A group of secondary school leavers, after a couple of years of unemployment, banded together and thought of setting up a seedling nursery from which they could both sell a range of fruit and fuel trees to farmers and produce fruit and timber of their own. Their municipality responded by allocating them land by a river for easy irrigation, while the forestry department aided them with advice on the management of the enterprise.

Elsewhere, a pair of secondary school-leavers judged there was an opening for the production of concrete blocks for their locality. They first got themselves a 'route' in the person of their Member of Parliament, - who incidentally gave them K.Sh.5000.00 (c. US\$333.00) to help them establish their plant. Their municipal councillor facilitated their securing a plot and water supply. Finally, the Ministry of Works and the local Institute of Science and Technology gave them advice and a short course on manufacturing concrete blocks. Now they are in business, struggling still, but optimistic.

Relations between independent learners and government personnel seem then to be mixed. It certainly is official government policy that its services should be open and ready to put their expertise at the disposal of people who are trying to develop employment and productivity. Clearly, many services are open and ready, even if only on an ad hoc and occasional footing. Nonetheless, it does seem that large sections of the public and large sections of the public educational services are insufficiently aware of each other. There evidently are active demands for learning, but the services seem not to know of them, not to know how to get to know of them, nor much to want to get to know of them, - there is too much to be done already. When particular individual wants are put before them, many of their personnel will respond helpfully, diverting themselves from the run of routine. Others, however, are unable to break out of routine to help.

As remarked at the outset of this report, it has to be conceded that routine in the Kenyan educational services is indeed heavy. The ordinary magnitude of the system plus the repercussions of the changes recently introduced does mean that all and more of normal working time is wholly consumed by routine requirements. To insinuate that even more needs and requirements should be added to the agenda demands at least that those needs be substantial and of some urgency.

On the issue of the numbers of independent learners, some rough calculations are possible. Between 20 and 15 years ago, when today's youth were being born, an annual cohort of children would have numbered some 500-600,000. By the late 70s and early 80s, some 400,000 of them were completing primary school every year. Perhaps 150,000 of them proceeded to some form of full-time post-primary education or training institution, including the Youth Polytechnics. The remaining (approximately) 250,000 perforce became independent learners, along with the (approximately) 100,000 who did not go to or complete primary school. These numbers are increased both by young people who abandon the secondary school course before completion and by those who graduate successfully, but without sufficiently high attainments to qualify either for further education and training or for formal employment. Taken together, these numbers suggest a demand/need for learning which does deserve the description substantial.

The urgency is less easy to argue. The government is only too well aware of the waste that could be involved. Letting young people find their own ways to some kind of livelihood through possibly several years of unemployment or odd-jobbery, may or may not be good for the character, but it is certainly a less than optimal use of the mental skills they have developed.

It is precisely in order to mitigate that waste that the Kenya government contributes towards so many Youth Polytechnics and other similar institutions. Its further support is curtailed not because of reluctance or apathy, but because it feels unable to divert resources from elsewhere into even more education and training. Recall that very few governments in the world spend as large a proportion of their budgets on education and training as does Kenya; and that the government is actually under pressure to reduce that share. In addition, its people already contribute hugely both through the ordinary revenues and through the Harambee movement: further taxation for education seems infeasible. Working with this fact of virtual over-extension in education is the simultaneous fact that the independent learners do seem to be looking after themselves. They are indeed getting along with some help from their families and friends. They are not besieging employment offices or rioting in the streets. Primary school leavers are getting themselves trained as radio technicians, watch-repairers and so on. Secondary school leavers, once thought to be fixated on white collar jobs, then to be reluctantly assenting to blue collar jobs, are now found in rice and tobacco fields, on tea and coffee farms and on shoe-shine stands in towns large and small. In short, young people adjust their aspirations to what is feasible and make their own arrangements. They do not pile the pressure on an already pressured and over-extended system. In effect, they defuse the urgency of their situation.

Defective Learning

By no means, though, does the self-reliant adjustment signal satisfaction. On the contrary, nearly all the young people interviewed wanted better things. Their working premises were mainly cramped, uncomfortable and ill-equipped. Their work flow was erratic, often small, their incomes uncertain and by their claims, meagre. Closer to the concerns of this report, they were dissatisfied with the way they were learning their livelihood. As a herbalist expressed it, "We need more education in medicine. We learned only from the wazee what to do but without explanation or scientific insight". A trainee locksmith also complained about the lack of theoretical understanding. "There is just showing. But even the showing is not always clear". They realised that, although they were indeed learning useful skills, they did not know the science behind them and certainly could not be sure of being up to date. Of the 5 radio technicians for instance none had been able to learn about repairing television sets or video-recorders, even though both commodities were on local scale and in obvious local use. On the other hand, all 4 watch-repairers said they could deal with quartz watches, even though they might not be sure how quartz worked. Incidentally only these two occupations had people who had bought, - and could show me, - books about the principles behind their crafts. The others had undertaken no book study, relying solely on the advice and demonstrations of their instructors.

Such discontent could be interpreted as a learning need or demand which the 'market' cannot satisfy, at the moment at any rate. Its frustration could be holding back the productivity and incomes of the craftsmen involved, - as well as causing rage and heartburn in customers who have their property ruined with the best of intentions. In effect, Kenya has a large number of young people who have been schooled to learn, who have

resigned themselves to lowered aspirations and the necessity to learn more, who are seeking and are willing to pay for opportunities to learn, who find the supply of training faulty but are making do with it, because nothing else is available and who can learn even more than their trainers can offer.

Might there be ways for the government to arrange for the learning required, without further overstretching its resources? Two areas seem to need improvement. One is of course the content of what the apprentices learn. The other is the quality of the instruction of the masters.

On the first, a point to bear in mind is that the crafts of the informal sector might be found in some form within the formal also. The theoretical bases of practice might be better inculcated and understood, simply because much formal employment requires theoretical qualifications. Might formal sector employers and employees be commissioned as temporary consultants

- to diagnose the requirements of crafts people in the informal sector, by actually studying what they do and know;
- to design short ad hoc part-time, evening or week-end courses for those requirements;
- to learn how to teach the courses, taking into account shortcomings in scientific background, command of language and mathematics, and so on?

It needs to be stressed perhaps that no regular or long-term commitment need be envisaged, - only enough to upgrade actual practitioners in particular localities. Since paying for your learning is a well established value and practice in Kenya, the costs of such courses could well be met by the learners themselves. It would seem feasible for the Ministries of Labour, Social Services and Education, perhaps with some help from the Institute of Adult and Distance Education, to take an initiative here, without diverting resources from other purposes.

The second area for assessment concerns the role of established independent craftsmen as trainers. To be borne in mind is that, while they might accept apprentices, they do not necessarily seek them and probably do not see training as a function for which they should make any adjustments. They were themselves not trained to be instructors or communicators, and most learned from similar craftsmen similarly untrained as instructors. The attitude, "What was good enough for me, ..." might well block any realisation of any need to improve instructional skills. Accordingly, some inducement to improvement may prove desirable, - not necessarily financial or material.

A first step in assessing what might be done could be patient local studies of precisely how each master actually goes about training his apprentices. A sound picture of strengths, adequacies and shortcomings could be put together, from which strategies for improvement could be deduced. Possibly either interested science and technical teacher educators, educational researchers or even industrial consultants could be commissioned to undertake the studies.

Masters who agree to discuss how their tuition might be improved and to institute measures for the purpose might be offered the right to state that their courses and methods had been granted official approval. If

they are subsequently moved to undertake learning to improve their professional skills as well, so much the better; but they would be required to pay for it.

Moves to improve learning for masters and apprentices would certainly require initiatives from the government and in that sense impinge upon the resources of personnel and time. However, the consequences of the initiatives can be designed so as to involve the resources of only the learners and their instructors.

The preceding discussion was drawn wholly from observations in Kenya and had no counterpart in the Seychelles. On Mahe island and in Victoria, the equivalent of Kenya's informal sector is noticeable by its invisibility. That third of the Seychellois labour force not engaged in formal employment would seem to be dispersed on farms, fishing boats and similar enterprises. Yet the most recent development plan did note, in view of the high unemployment rates, the desirability of encouraging the informal sector. Any such encouragement would of course entail consideration of what learning might be needed and how it might best be effected.

The young people likely to be involved will be

- those few who do not enter the National Youth Service after the 9th year of primary school, (perhaps 100-150?);
- those few who leave the N.Y.S. after one year, (perhaps 120-150?)
- a proportion of the half-cohort who do not go on to the Seychelles Polytechnic after their 2 years in the N.Y.S., (perhaps 200-250?), yielding a total of perhaps 400-500 annually. An important point about this reckoning is the implicit assumption that candidates for the informal sector will be a minority of their year groups and among the scholastically less successful. In Kenya, it is also the scholastically less successful who are to be found in the informal sector, - among the 22 young entrepreneurs interviewed in Kisumu, none had completed secondary school and nearly half had completed only the 7-grade primary course; similarly, the secondary graduates found on farms or shoe-shining had mostly earned Division III certificates, rather than Division II or I. The crucial difference is that Kenya's post-primary institutions are both intensely selective, - not more than 25 per cent of a cohort get through, - and expensive, so that many young people simply cannot afford more education or training. By contrast, the Seychellois system is open all the way for 11 years, while entry to the final 2 or 3 at the Polytechnic is limited not by places, but by quality of scholastic attainment. The result is that, whereas Kenya's 70-75 per cent majority in the informal sector still include a high proportion of relatively able young people, the 25-30 per cent minority in the Seychelles probably consists almost entirely of scholastically weaker people. Now it may very well be true that scholastic ability may not be correlated with ability to be successful in creating a decent livelihood. However, it does tend to be associated with ability to learn abstract subjects and hence to learn effectively the science underlying modern technologies. The implication is that the Seychelles would probably need to invest more resources and thought in creating effective learning programmes to foster its informal sector.

That implication is underlined of course by the apparent invisibility of the Seychellois informal sector. Identifying it, studying its

processes and determining whether it is still reproducing itself through apprenticeships or other forms of transmission and learning; or whether it is already so debilitated that entirely new processes will need to be created; will require considerable applications of research and administrative skills. The relative magnitude of the effort called for can be gained from a study done in 1984 on the reasons why 400 students dropped out of the Seychelles Polytechnic in 1983 and 1984, - they represented 26.5 per cent of the enrolment for the intakes of those two years. Although the researchers were able to consult the Polytechnic's 3 sets of records on the students, interview the faculty as well as the students still at the Polytechnic, they were not able to manage to trace and interview even a sample of the drop-outs themselves. Extrapolating from that experience to the tasks outlined above suggests that grappling with the Seychellois informal sector will call for ingenuity and persistence.

The Process of Accommodation

In the course of the previous section, the fact was noted that young people adjusted their aspirations to reality. They go through a form of painful learning, a process of accommodation. In many cases, the time is long. One tinsmith, for instance, now established in Kibuye Market and apparently the local innovator of a twin-burner pressurised oil-stove said it had taken him 6 years. He had graduated with a decent Certificate of Primary Education, but his family could not finance his attendance at secondary school. So he went in search of a post in the formal sector and despite periods of unemployment and others of casual labouring, did not throw in the towel for 6 years. Then he decided he had better learn a craft and attached himself as a paying apprentice to a tin-smith for a fee of K.Sh.1500 (c. US\$100.00). Similarly, a trainee locksmith with a certificate of Junior Secondary Education allowed 4 years to pass living off his relatives and odd jobs, before he resigned himself to self-employment. Two 'O' level, Division III, graduates in Embu were a bit swifter in adjusting. After nearly 2 years of a fruitless hunt in the formal sector, they found themselves on their own, as their parents moved to a different district and they did not want to follow. "We had to live ..," so they set up a partnership in a shoe-shine stand. They also help run a music and dance group, which they hope will become their main earning power one day, and take part in the tree nursery mentioned earlier. More examples could be narrated, but these suffice to make the point that much time, training and talent is absorbed, perhaps wasted, in this process of accommodation. Even 2 years are a long time of not using one's capacities to full advantage: the loss is of course both individual and national.

Another, but separate, aspect of accommodation relevant to this report and already touched upon, concerns the Youth (Village) Polytechnics. Those close to towns have introduced subjects like electrics and electronics. In the form they are currently taught, these courses require strong components of mathematics and science. Unfortunately, they are finding that their primary clientele, who should be primary school leavers, are shying away from these offerings. So too are applicants with Junior Secondary certificates. They are intimidated by the science requirements. Even when they enter the course and complete it, they decline to take the government examination for fear of failure. The contrast with the radio, gramophone and tape-recorder repairers in

the actual market-place, - all of whom had less than a full secondary education, - is odd, but is presumably explained by the practical, virtually theory-free nature of informal apprenticeships. The implication seems to be that a large proportion of those who could do with science to strengthen their grip on technology, judge themselves incapable of it. They choose instead to take-up less demanding occupations or at least less demanding versions of them. This fear was deplored by an electronics instructor, who said that the few primary school leavers he had taught had been quite as capable as those with longer schooling. He admitted that their knowledge of English and mathematics was weaker at the start, so that they had difficulty in dealing with texts, problems and very abstract concepts. Nonetheless, he averred that their ability to learn was as good as that of the secondary graduates. (An identical assertion was made by a carpentry instructor, who had a minor proportion of Form IV learners mixed in with primary school graduates.)

Perhaps if the course were taught to primary leavers over 3 rather than 2 years the problem might be mitigated. The cost to the learners however would be raised by some 50 per cent. From another tack the course might shift closer to the practical apprenticeship, concentrating on the diagnostic and repair skills and reducing the proportion of theory and mathematics. The price here might well be the inability to satisfy the requirements of the official examinations and trade tests, - a price paid of course by the informal apprentices, but possibly less acceptable to those who enrol in and pay fees to an officially approved institution.

Despite the shyness of the primary clientele, the courses are full, even oversubscribed. Their populations though, are a few Form III dropouts and mostly Form IV graduates with Division III or IV certificates. That such people should be enrolling in institutions meant for younger learners with 4 years less schooling than themselves is of course another symptom of the process of accommodation.⁹ It raises three issues. First, are the secondary graduates learning at levels below their capacities, which would in itself represent a kind of waste? Second, is it their presence which inhibits the courses from being adjusted towards the capacities of the primary clientele, causing a neglect of potential? Third, if the courses were to be tailored more to the primary clientele, would separate courses need to be organised to avoid a yet greater underutilisation of the capacities of the Form IV learners? These questions have to be left for more thorough study, since I obtained no information to answer them. My visits and interviews only raised the prima facie suggestions of waste and underutilisation involved in the process of accommodation.

However, it is possible to mull over the time taken by large proportions of young people to adjust their sights.

The question is whether the period might be abbreviated by some form of learning programme. An obvious first idea is vocational guidance and counselling. The Kenya government learned the value of a good occupational information, guidance and allocation system for its secondary schools around 1970. It later intended to extend the scheme to the primary schools, for it recognised of course that the majority of young people entered the labour force at that point. As far as could

be ascertained, the usual constraints seem to have prevented full realisation of the idea, which was that the service would be run by the Ministry of Education through its cadre of primary school teachers. With well over 11,000 primary schools and hence at least 11,000 teachers to be trained and kept informed, not to mention the differing situation in the 40-odd districts and their even more numerous divisions and locations, the resources involved proved too great, especially in a prolonged period of international recession and financial stringency.

- If government resources and institutions cannot stretch to such a service, might there be ways of applying the 'Harambee' principle to it? At present, Youth Polytechnics are very much part of the 'Harambee' movement, depending largely on their local communities for support, leadership and custom. Their governors, - local leaders, - and managers say they assess what the 'needs' of the locality are and set up their courses accordingly. As remarked earlier, their assessments across the 3 provinces visited seemed too similar or standard to be the outcome of any systematic appraisal. The problem is of course recognised and is being tackled in cooperation with the I.L.O's regional office for Skills Development for Self Reliance (started as recently as 1980). The SDSR staff have already developed a scheme of Community Surveys and Profiles, which aim at ascertaining what demands and needs exist, which might justify organising appropriate learning programmes. They have tried them out and have advanced sufficiently to have trained 80 of the 600-700 managers of Youth Polytechnics in organising surveys and using their information to develop courses and curricula. An obvious extension of the usefulness of such information would be converting it into grist for vocational counselling for the families of students at the end of their primary schooling.

That would entail asking Youth Polytechnics and their sponsors to extend their functions beyond teaching courses into contacting young people with their families even before they had graduated from the primary course. Since a polytechnic can serve 30 or more primary schools, each with at least 40 young people in its graduating class, an additional full-time members of staff may be required to cope with this one function. The additional costs of salary and support for circulating information and travelling to schools for class and individual - with - family counselling sessions would have to be borne, as with everything else, by the sponsoring communities, possibly with some help from the government. Which means of course that the sponsors would need to be sufficiently convinced of the use of such a service to pay up even more heavily than they are doing at the moment. Further, the SDSR project or similar institution would need to set up another training programme to prepare the counsellors. Moreover, a new fangled scheme aimed at some 700 autonomous polytechnics scattered across the country, cannot realistically rely upon spontaneous combustion: it needs patient, persistent explanation, guidance and dialogue. Hence, some central, possibly government, organisation would need to accept the function of animateur.

Would good information, assessment and advice pondered by students in company with their families and teachers before graduation really do much to facilitate and shorten the process of accommodation? Would it significantly and effectively reduce the underutilisation of education and training and conversely accelerate production and productivity?

To be noticed are

- The fast declining proportion of those who do not go from P9 to the NYS, down from 18.3% in 1983 to 12.7% in 1985, i.e. nearly 9 out of 10 young people now enter for 11 years of schooling;
- of the 1,631 graduates of P9 in 1982, 1,332 (81.7 per cent) entered the NYS in early 1983 and 1265 (77.5 per cent) graduated thence at the end of 1984, showing a drop out rate of only about 5 per cent;
- of the 1265 NYS leavers, 753 (or 46 per cent of the original 1631 p.9 leavers) proceeded to the Seychelles Polytechnic in 1985.
- so that, on the basis of the 1982 P9 leavers:

18% takes only 9 years of education

5% takes 10 years of education

31% takes 11 years of education

46% takes 12 or more years of education.

Would it encourage young people to capitalise more rapidly on their education by using work and production as further education in technology and science? Like the earlier ones, these questions have only been raised by this very limited study. They cannot be answered by it. Nonetheless, if we can assume that better informed decisions tend to be better decisions, then there is reasonable ground to expect positive answers. At the least there is a basis for a modest experiment or two.

This discussion of the process of accommodation has been in terms of a situation observed in Kenya. However, it may apply to the Seychelles as well, since the government itself talks of examining the possibilities of the informal sector. If the government has formerly oriented itself to the formal sector, the young are likely a fortiori to aspire to formal salaries and barely to think of learning for self-employment, let alone science-based or intensely technological employment.

Added to this are the probability that most of the youth in search of employment and least able to secure it will be the slower learners and the fact shown in Table 4 that in December 1983 most job seekers, male and female, adult and youth, asked for unskilled jobs. Among the youthful males, 78 per cent wanted sales, service or labouring work, while the corresponding proportion among the youthful females was 55 per cent. That is, the process of accommodation may be pressed upon those least equipped to handle it. Their aspirations are already very modest. Creating an independent and entrepreneurial livelihood may be beyond them. According to the distribution of the labour force between the formal and informal sectors and on the showing of the 1983 figures, they are likely to be joined by some of the more able and energetic, only if the Seychellois economy stagnates or lists a long lasting regression such as was experienced in 1982.

This estimate seems to be borne out by some significant figures very recently compiled by the National Manpower Development Board. They are set out in Table 5.

Table 5 Destinations of Seychellois Youth Not Continuing Education or Training at age 15 (Primary 9 graduation) and age 17 (completion of National Youth Service), 1983-1985

		15 year olds P.9 from previous year	17 year olds N.Y.S. from previous year
1983	Total number	1631	884
	% NOT continuing education	18.3%	28.1%
	Number NOT continuing education (%)	299 (100)	249 (100)
	No. placed in employment	6 (2)	0 (0)
	No. unemployed through 1983	293 (98)	249 (100)
1984	Total number	1589	1336
	% NOT continuing education	14.3%	39.1%
	Number NOT continuing education	228 (100)	523 (100)
	No. placed in employment	41 (18)	96 (18)
	No. unemployed through 1984	187 (82)	427 (82)
1985	Total number	1471	1265
	% NOT continuing education	12.7%	40.0%
	Number NOT continuing education (%)	187 (100)	512 (100)
	No. placed in employ'm't by Feb. 28, '85	2 (1)	3 (05)
	No. registered as unemployed on Feb. 28, '85	23 (12)	383 (75)
	No. not registered, presumed inactive	162 (87)	126 (24.5)

Source: National Manpower Development Board, 1985, "Flow of P9 and NYS Leavers" (mimeo).

If the formal sector of some 17,500 workers were expanding at a rate of 3 per cent per annum, it would be offering some 500 new jobs annually, plus perhaps another 200 to account for retirements, emigration and death. That would yield a total of some 700 or just about enough to absorb those who graduate with a full secondary education, - and leaving on one side the 1,200 people who at the end of 1983 were looking for work that was not sales, service, agricultural or labouring. It is not surprising then that the P9 and NYS leavers appear to have such a hard time getting themselves employed. Nor is it surprising that the P9s of 1984 have been pretty sluggish at getting themselves registered for employment in early 1985.

Given this difficulty and given the probability that the P9 and NYS leavers may well be regarded as the less able of their generation, the question arises whether they should be encouraged to accommodate to the informal sector, or whether the effort to get them absorbed into the formal sector through The Work Experience Programme is the wiser course. If the formal sector does slow down to a degree which leaves unacceptably large proportions of youth unemployed, it may be sounder to induce the more able, - with both incentives and safety-nets, - to try their hand at building enterprises and creating employment for others.

A scheme of precisely this nature was started as recently as June 1985. Called "Four Degrees South", it is a small exercise in education-with-production for 5 women and 3 men in Fashion Design and Textiles. The participants all have either substantial education, - a designer had 3 'A' levels, - crafts training or experience. By no means is it independent learning: A fully qualified and long experienced instructor was imported, participants were recruited and selected from an applicant pool of 4 competitors for every place available and the participants are paid training allowances well above the wages proposed for the Work Experience Programme. Still, it is oriented to independent, possibly cooperative entrepreneurship and it has just opened its own shop, (assisted by the Government), for its own rather striking products. There is a twin scheme in wood products also. Both are orienting and supporting the well educated and talented towards independent self-employment.

If ventures like this are successful in the sense that they can both survive and, equally important, yield incomes which compare favourably with those in the formal sector, then the feasibility of getting the able to accommodate to independent employment will be good. To achieve favourable comparison, the net incomes for each participant would need to be in the region of SR.26,000 (c. US\$3715.00) per year in 1983 prices, for at that period the average salary in the public administration was SR.2170 (c. US\$310.00) per month or SR. 26,040 (c. US\$3720.00) per annum.

Education With Production

If the independent workers of Kenya are anything to go by, the possibility of matching formal sector incomes through the kinds of apprenticeships and businesses which now exist, is likely to be small. There will need to be rather better quality training in skills and productivity and rather better initial education and post-launching support in business development. This may entail applying the principle of "education-with-production" in an ever more thoroughgoing and extended fashion. Apprenticeships are of course one manifestation of it: the apprentices assist in production as they learn and, as their skills develop, they are awarded increasing allowances, - even though they may have initially paid for their tuition. The enterprise 'Four Degrees South' is another clear example, although the earnings do not accrue to the trainees, who receive their allowances on a different basis. All the Youth Polytechnics in Embu, Kisumu and Mombasa do part of their training and earn part of their revenues through large contracts and small commissions for institutions and individuals. Their takings go towards meeting their running costs and holding the tuition fees down. The carpentry project at Pandipieri (see Annexe II) is

deliberately geared to enabling its trainees to earn within 2 weeks or so of starting their course. As with the Youth Polytechnics, the earnings of the first 2 years are put towards the running costs. In the second phase, however, all the revenue goes to the carpenters themselves. They use it to pay for their rent, materials and supplementary tuition, to save for their own tool-kits and also simply to subsist. The Nyalenda Ladies Circle, in common with most other women's groups, meets on only 3 afternoons a week to learn, but it, like the other schemes, also produces both to pay for itself and to enhance its members' incomes. The Tototo Industries group of women in Mombasa does much the same with tie-and-dye textiles and other handicrafts. In short, the principle of education-with-production is well and widely established.

Even so, it is established only for the scholastically less successful and for institutions of the 'last resort'. It does not apply to secondary schools, general or technical, nor to the great national polytechnics, still less to the universities. If it is to be made respectable for the more successful and attractive as a prime option rather than a last resort, three questions will have to be satisfactorily settled. First, can the production and earnings of training enterprises be raised to levels and reliability demonstrably comparable with the formal sector? Second, can the supports to help young businesses establish themselves be extended beyond the ordinary training period and outside the ordinary training institutions? Third, can safety-nets against failure and hardship be designed, without allowing either excessive dependence or unacceptable abuse? A final consideration is not for the learners, but more for the governments: can the answers be created without requiring yet more resources and further expansions to the civil or other public services?

This study encountered no initiatives in a position yet to respond to these issues. The Pandipieri carpenters and 'Four Degrees South' should, however, repay careful monitoring over the next few years, even though neither fully fits the criteria implied in the preceding paragraph. Designing a project specifically to test whether the criteria can in fact be satisfied would of course be a valuable exercise, but outside the scope of this report.

Non-Specialisation

Both the Pandipieri carpenters and "Four Degrees South" appear to contradict an earlier observation of this report, that intense specialisation of occupation may not be appropriate to the whole economies of Kenya and the Seychelles. In restricted or relatively poor markets, the specialist may not be able to find enough work, whereas the multi-skilled craftsman might. Yet both enterprises are producing specialists. The observation would seem to be at odds also with the criterion of comparability with the formal sector in income. For, if being multi-skilled means operating in a poor or restricted market, might it not also mean operating on a relatively low income? High incomes after all tend to come from working 'up market'.

The key to the choice between specialisation and being multi-skilled lies in the market in prospect. The Pandipieri carpenters are serving both a large town and a considerable hinterland of villages with schools

in need of wooden furniture. Their market is also being promoted and activated by an agent who seeks out and competes for work on their behalf: they do not wait for customers to stumble upon them. The volume of work coming in keeps them stretched flat out. They can specialise, because they have to specialise. If they did not, they would not fulfil their contracts. For its part, 'Four Degrees South' is not oriented primarily to the Seychellois. Its main market is the heavy traffic of tourists. Its shop indeed is situated just behind the most popular tourist coffee and lunch bar in Victoria. Its market then is both large and up-market; so it can specialise in novelty and high quality. A contrasting case is that of a shoe-maker in Kisumu. After being trained at a rehabilitation centre and given tools and starting capital, - he is handicapped, - he set up shop in his village in the Siaya district. After a year or so, he judged that his village and its immediate neighbours could not generate enough work to keep him fully occupied and sufficiently remunerated. So he moved to Kisumu in search of a larger market. Had he been mobile, he might, in the manner of Pandipieri, have drummed up sufficient work. Had he learned how to tailor, for instance, or to make wooden household utensils, the double or triple market he would have been serving might have yielded a satisfactory income.

The indication would seem to be that occupational training schemes, - and counselling services, - should attempt to assess the nature of the markets in which their trainees will operate. If only small populations and restricted mobility are in prospect, it may well be wiser to train for polyvalency. A rural radio technician, for instance, might be well advised to train himself, - or even herself, in future, - not only in a wide range of battery operated appliances, but also perhaps in watch repairs and the electrical systems of motor-vehicles. On the other hand, a radio technician in Kisumu, Mombasa, Nairobi or even Victoria might well prosper contentedly by specialising reliably in radios and televisions.

The second issue, the compatibility between polyvalency and high incomes, depends less upon situation within the market and more upon the volume of work. It is after all a popular belief that many traders and minor service-givers have enriched themselves at the expense of the poor, by selling down-market in large volumes, and in packages which the poor can afford, even though the price relative to larger packages may be expensive. Naturally, high volumes of work from people able to pay higher prices will offer more attractive productivity. Nonetheless, high volumes of work for people able to pay only sufficient prices can offer sufficient incomes. In considering the viability of polyvalency in a given context, then, a designer of training should estimate whether somebody serving two or three demands in a small and poor market could make an income to match a specialist in a larger market or, more important, somebody of similar age and background in the formal sector.

CHAPTER 4: SUMMARY HIGHLIGHTS

The purpose of this chapter is to single out in a summary way what seem to be the particular points of interest which the two countries have to offer others in the area of learning concerned with technology and science for modernising occupations.

Kenya:

1. The most striking phenomenon in Kenya is the 'Harambee' movement for mobilising a community's resources for projects it has chosen to support. The single most important purpose pursued by communities has been school education for their young. The youth polytechnics also owe much to it. Workshops and laboratories are among the range of buildings paid for by enormous and repeated efforts at local solidarity. In other societies, where education and training are equally valued, and where official public resources are equally scarce, corresponding forms of mobilisation may be worth considering, if they do not already flourish.

2. The willingness to pay for education and training is not confined either to whole communities or localities, or to the better off. As the fees paid by apprentices and learners in the polytechnics and other centres demonstrate, households of all kinds are willing to get the money together to pay for their children to be educated or trained in some worthwhile way. This is not to deny in the least that there are many families who cannot pull together the requisite finances and that many young people either fail to enter or are compelled to abandon training they want. Nonetheless, if we can assume that families elsewhere are at least as anxious as the Kenyans to help their children forward, it becomes less necessary to think of financing education solely through government channels. It becomes more possible to think more flexibly in terms of different forms of partnership between governments, community, and household resources.

3. A good deal of productive learning and instruction goes on independently in the towns and rural communities, most of it outside governments' official cognisance. There are possibilities whereby both the learning and the instruction could be improved with systematic injections of appropriate science and technology, but without leaning even more heavily on government resources. Mobilising and rewarding the formal sector to share appropriate parts of its scientific knowledge and technological know-how with the masters and apprentices of the informal sector should be possible through the facilitating offices of government.

4. "Education-with-production" is well established in informal apprenticeships, Youth Polytechnics and other non-government technical training centres. The extension of the principle at Pandipieri calls for close monitoring: in the second phase, the learners pay rent for the premises and the costs of all their materials, but they decide what tuition they need and negotiate a price with their instructor, and their net earnings are divided between investing in their tool-kits and ordinary subsistence. The gradual move from full-time tuition through semi-independent learning and development to fully independent business status is worth studying. So too are ways of gearing syllabuses to

production-for-sale from the earliest possible moment.

5. Some of the Youth Polytechnics and technical training centres have noted that multi-skill craftsmen, able to handle a mixed package of operations, seem to find work more easily than mono-craft specialists. One or two therefore attempt to help their trainees pick up at least some skills from a range of occupations. The feasibility of the non-specialist or polyvalent craftsman for certain kinds of populations and local economies could be worth studying.

6. The educated youth of Kenya go through a process of accomodating their aspirations to the actual opportunities of their situation. Many of them seem to spend between 2 and 6 years in the process, which represents at the very least an opportunity cost to themselves, their families and their society. It may be possible, through existing community institutions and a little government guidance, to create counselling services for primary school leavers which could reduce this period of waste by accelerating the process of adjustment.

The Seychelles:

1. The Seychelles Polytechnic has arranged for its workshops and laboratories to be used for part-time learning in science and technical subjects, after its full-time courses have finished for the day. In part, the arrangement is facilitated by having some of the full-time staff teaching the evening part-time classes as well. However, non-Polytechnic staff also teach science subjects and have the laboratories and materials at their disposal, - although there are indeed complaints about imperfections. This double use of premises to promote and aid part-time learning seems an example worth examining.

2. The Work Experience Programme, just begun, seems an excellent means for offering the academically less successful opportunities to learn 'modern' skills, grow familiar with modern work organisations and enhance their employability at very low cost to the government. The Seychelles Ministry of Labour and Social Security would be doing the Commonwealth a favour, if it could arrange for regular monitoring reports to be circulated on The Work Experience Programme.

3. Two new enterprises in fashion-design and textiles and woodcraft seem to be well designed for orienting some of the more able and talented toward independent or possibly cooperative enterprise, through which they might create further employment for others. The idea of combining tuition and practice in technical skills with tuition and practice in marketing and sales appears promising, even though the project is small. Again, progress reports circulated to the Commonwealth would be useful.

FOOTNOTES

1. This observation is of course an echo of one of the reasons behind the International Labour Organisation's development of modules of employable skills, MES.
2. An international school is permitted to operate for the benefit of the diplomatic and expatriate groups. However, no Seychellois child may attend it.
3. The per capita national income is approximately SR.1,250 (c.US\$179.00) per month and the average monthly earning in the formal sector is about SR.2,000 (c.US\$285.00). The WEP wage can be seen then to be more in the nature of a modest subsistence allowance. Although it can be augmented by an allowance for travelling to and from the workplace, it is also subject to deductions for income tax and social security contributions.
4. In Kenya, private correspondence schools and colleges, mostly foreign based, do operate, but not in science and technical subjects. No information was collected about them.
5. Table 4 also indicates the seriousness of unemployment. The figures for the youth, 15-17 years, suggest that some 11.2 per cent of the age group are unemployed. But as the bulk of the group was in the National Youth Service, the inference is that anybody not in the service was in all probability unemployed. For the adults, the total of 5,875 says that some 25 per cent of people available for work did not have any.
6. The word craftsmen is used, because the women entrepreneurs in Kisumu seemed to be engaged exclusively in selling, cooking or making clothes and were not interviewed.
7. In the 1979-83 Development Plan, dropout from the primary course was estimated to be around 25-30 per cent.
8. My reckonings based on the scraps of information they were willing to give suggested takings of between K.Sh.500 (c.US\$33.00) per month for some to about K.Sh.1,200 (c.US\$80.00) per month for a few. What the net incomes would be I could not calculate. It would seem, however, that earnings were above the poverty level mentioned earlier. The 1979-83 Development Plan reckoned that the incomes of most workers in the urban informal sector were higher than the official minimum wage for the formal sector.
9. It does, at the same time, carry the possible danger of 'qualification escalation', in the sense that secondary graduates may start gradually displacing the primary clientele, but that is a separate issue and by no means a looming threat. All the same, it is worth noting that the annual output of Form III dropouts and Form IV graduates now probably exceeds the annual intake of the Youth Polytechnics, both aided and unaided, so that the possibility of increasing proportions competing against primary school graduates for places is not negligible.

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AFTER TRAINING, WHAT?

Youth Training and Self-Employment

In Botswana and Zambia

A study prepared in November 1983 for
The Commonwealth Youth Programme, Africa Centre, Lusaka

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Wim Hoppers, November 1983

Editor's note:

Whilst some time elapsed between the production of the original report and editing, it seemed most sensible to use the author's original tense, and in particular the present tense of the recommendations, even though these were, of course, made two years ago.

Colin Ball, December 1985

The opinions stated in this report are those of the author and do not necessarily represent those of the Commonwealth Youth Programme.

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CHAPTER ONE : INTRODUCTION

This report was commissioned by the Commonwealth Youth Programme's Africa Centre, in Lusaka. Its subject denotes an increasing concern among the governments and people of Commonwealth countries in Africa about a serious situation: many young people are becoming major victims of the current world economic recession.

Over the years various vocational training programmes have been devised for young people who leave school too early to be absorbed in the modern economy or who never have the chance to go to school at all. But results have been mixed: questions are being raised as to the value of such programmes. Hence, a fresh look at current youth training programmes and their relevance for employment is appropriate for a number of reasons. Firstly, much of the information that is easily accessible is out-dated: the most recent continent-wide surveys date from the mid-1970s. Secondly, trends are discernible which need to influence the youth programmes. A major one is the dramatic decline in most countries in formal sector job opportunities, making a more effective orientation of training programmes towards self-employment imperative. Increased attention is being given to out-of-school young people who have no home other than the city. In response more programmes have been set up to cater for their needs: even avowedly rural programmes have tended to become 'urbanised' in intake and focus. Thirdly, governments, in their attempts to promote nationwide programmes for youth development, need more information based on what has been learned from existing experience, whether positive or negative.

Comparing youth programmes in different countries is a delicate matter. It may seem attractive to consider the apparent success of one type of project in one country and assume that the model would work equally well when applied in another. In practice, however, the success of a model in a given situation is dependent on a complex set of factors, many of which relate to particular socio-economic circumstances, but this does not mean that experience cannot be transferred: it is possible that a model which seemed ineffective in one situation may show better results when implemented in another. In addition, over a period of years the chances for success may alter significantly.

This report is intended as a modest contribution to the process of learning from experience. It focuses on projects and programmes for youth training within the socio-economic context of two countries: Botswana and Zambia. The central aim has been to examine the structural features of the projects and programmes with a view to identifying those which appear to be most effective in assisting out-of-school young people towards productive self-employment. Modest resources did not permit close analysis of the skill content of the training, nor was it possible to visit and collect data about all youth training schemes in the two countries. Nevertheless it is hoped that this study will lead help identify those features and principles which can form part of successful strategies for relieving youth unemployment in Commonwealth countries.

Since the early 1960s, when most countries in Africa gained their independence, efforts have been made not only to expand education quantitatively, but also to make its content more relevant to the promotion of national unity, to economic development, to cultural awareness and to social equality. Much has been done to Africanise school curricula, but the structure of the curriculum and its academic bias have changed more slowly. Attempts at basic reforms of educational systems became more common during the 1970s, when most countries were confronted with the fact that the higher levels of education could only absorb increasingly smaller proportions of primary school-leavers. While great shortages of candidates for high level manpower positions continued to exist, available jobs lower down in the economy were quickly being filled up: job openings became scarcer and scarcer; ever larger numbers of out-of-school youth found that they were unemployable. Thus the search for relevance began to take on new dimensions. Generally, curricula in primary and secondary schools received a more practical bias and some form of production units, attached to schools, became common.

Out-of-school programmes

Other initiatives were undertaken outside the official school system. In them, the focus was on basic vocational skills training which could bridge the gap between school and work and make school-leavers more employable, whether in semi-skilled wage-employment or in self-employment.

Some of the programmes of this nature in Commonwealth Africa have grown out of more traditional activities for youth in the social and cultural field, starting when existing voluntary organisations, catering for school-going youth or adults, extended their activities to include young people who were out of school and out of work. Other programmes, however, were new institutions; manifestations of a desire among governments to involve youth on a large scale in national development. In general, three types of these new programmes can be distinguished: national youth mobilisation schemes; pre-employment youth training programmes and employment-based schemes. Each is now briefly discussed.

Most national youth mobilisation schemes date from the 1960s. They are large-scale training and work programmes, often organised along military lines, having a heavy emphasis on character training and service to the nation, with economic aims often reduced to a minor place. They derived their economic importance from the many national development projects that were carried out (as, for example, in the Kenya National Youth Service), from giving youth an opportunity to acquire skills, or from their efforts to create opportunities for rural settlement (as, for example, in the Malawi Young Pioneers). Via camps located in rural areas, some of the mobilisation schemes aimed to create focal points for development, building up new infra-structures, providing services to the local population and to improved methods of production. These schemes tend to have their own national administrative arrangements, separate from the normal government administration.

The pre-employment training programmes include a large variety of government financed, but often voluntary-sponsored, schemes designed to help out-of-school youth develop useful organisation skills and, sometimes, to give them an opportunity to apply them. The main emphasis here is on training, though not necessarily only for employment. Typically, these programmes involve voluntary organisations, local councils and community groups in the sponsorship and management of training projects and courses. Despite this organisational diversity the nature and purpose of the courses have been remarkably similar. In rural areas, schemes are mostly concerned with training for improved agriculture, while in urban areas the emphasis has been more on craft training, such as bricklaying and carpentry for young men and tailoring or homecraft for the women. While the agricultural schemes are only intended for self-employment, the urban programmes aim at making youth more employable both in terms of wage-employment and in terms of starting a business of their own.

As far as the agriculturally-orientated schemes are concerned, it would appear that many were established during the 1960s. Some appear to have been fairly successful, especially where they were related to settlement on virgin ground, such as in the Western Nigerian Farm Settlement Scheme in Nigeria.

The craft training schemes have become very popular among young people in many countries: in some cases they have come to operate on a national scale, as in Botswana, and Kenya. Elsewhere voluntary organisations - especially religious bodies - have increasingly recognized a responsibility to provide practical courses for school-leavers, often as a valuable alternative to their traditional involvement in formal academic education. These urban craft training schemes have proved attractive to foreign aid agencies, with the effect that many schemes have grown into fully fledged trades schools, while others have been able to diversify so that less conventional activities could be undertaken, such as pottery, plumbing, blacksmithing, leatherwork, spinning and weaving.

In the employment-based schemes, young participants are immediately put to work, not within a training institution but in a production unit of their own. In such schemes, rather than attending courses at training institutions, the young people receive training from trainers who are attached to the production units in an advisory role, gradually withdrawing when the trainees have reached standards of effective operation. To date, this format has mainly been applied in agricultural programmes, for example in the Serowe Farmers' Brigade in Botswana and in the Nyakashaka Scheme in Uganda.

It is less clear as to what extent this approach has been applied to craft training. During the 1970s programmes were set up in a number of countries for the 'upgrading' of established craftsmen, by providing them with a variety of industrial extension services. But in most cases this concerned only older people.

CHAPTER THREE : THE ISSUES

As experience with youth programmes has accumulated, various issues have arisen which demand the attention of policy makers and practitioners. All of them are related to the value of the schemes in meeting young people's social and economic needs. In this chapter, these issues are briefly discussed.

Scope

In virtually all countries non-formal programmes for young people have, thus far, affected only a relatively small proportion of the eligible out-of-school youth population. Even an extensive national programme, such as the Village Polytechnics in Kenya, which operate in 200 centres around the country, caters for only 7% of primary school leavers.

The question which arises from this is, to what extent can this be used as an argument against the programmes? The complex nature of the problem as well as limited funds have led most schemes to start on a small, experimental base. Often, so much attention has had to be given to the pilot schemes and their attendant problems that plans for replication on a larger scale have had to be abandoned. In the case of national youth schemes, even though some governments attempted to set them up on a massive scale, presenting them as major solutions to the youth unemployment problem, logistical problems became so great in many cases that the scope of the schemes had to be drastically reduced.

In addition it has become apparent that the value of training lies not only in the acceptability of the 'graduates' of training schemes to employers but also in the absorptive capacity of the economy. In a stagnating economy, saturation is quickly reached, leading to a serious devaluation of the training in the labour market, as has occurred with formal educational credentials.

Out of all this experience comes, therefore, a vital question concerning scope: is there an optimum number that can be trained?

Target-group

Both in theory and in practice it is not clear how the target group for programmes should be defined, for maximum efficiency and maximum effectiveness, and what consequences the choices on targetting have for the nature of the programmes. For example, where the target group is taken to be those between 15 and 25 years old, there are great differences between a young boy of 15, just coming out of school with no work experience but many hopes, and a man of 24 with a wife and children moving from one casual job to another trying to adjust himself to the realities of life.

While it would appear that agricultural programmes are focussing more and more on older young people (who have left school for some time and who can be expected to be more committed to farming), in craft training the tendency is to recruit more school-leaving young people. Increasingly the latter have come to require a minimum educational level which used to be the completion of primary school, but is now often raised to junior secondary or even senior secondary school. Thus primary drop-outs* and unschooled youth*, of which there are many, experience difficulty in obtaining access to programmes. Thus 'broad targetting' in theory has become narrowed in practice. In addition, it is not clear to what extent programmes reach children of the 'working poor', such as rural peasant farmers and urban casual workers. Craft programmes often require trainees to pay small amounts as a fee. This, together with other opportunity costs, may impede participation of poorer youth (especially those who cannot rely on the support of relatives) and older youth (with family commitments). Thus, whatever their targetting, programmes can come to be dominated by children of rural or urban higher income groups.

As regards targetting, therefore, a number of problems arise. In addition, a related question concerns the rationale for schemes to be specifically directed at out-of-school youth*, rather than making them an integrated part of a more comprehensive programme for community development.

Social value

Interest among politicians and officials in the new type of non-formal education represented by these programmes stems, at least in part, from a desire to provide some amount of basic education to all, through new forms of 'delivery system'. As was acknowledged at the Lagos Conference of Ministers of Education of African Member States of UNESCO in 1976, if equality is to be ensured, the concept of basic education should ideally entail an overall restructuring of the educational system, blurring the distinction between formal and non-formal 'delivery systems', linked to wider aims such as improvement in the distribution of employment and income, reduction of poverty, establishment of essential social services and the promotion of cultural values and identity.

The problem is that so often innovations through non-formal training arrangements have been introduced without these parallel reforms. Indeed, some have been introduced out of a sense of discouragement with attempts to reform the formal educational system, in the hope that the alternative would avoid the many pitfalls of conventional schooling. As a result, equality has not necessarily been ensured: for example, a seminar in Nairobi on Basic Education in Eastern Africa noted that the general introduction of schemes for basic education could run counter to the principle of democratisation and that they tend to divide the population, thereby worsening existing inequalities between urban elites and the disadvantaged rural masses.

*Note: Throughout this report 'drop-outs' refers to young people who leave school before the statutory minimum school-leaving age; 'early school leavers' refers to those who leave at the minimum school-leaving age; and 'unschooled' refers to those who do not attend school at all. 'Out-of-school youth' refers to all young people who have left, or not attended, school. 'Formal' education refers to education which takes place wholly within an educational institution generally on a structured, full-time basis; 'non-formal' education refers to education which takes place outside educational institutions, often on a part-time and far less formally structured basis.

In the same vein the second meeting of Young Commonwealth Leaders in Colombo in 1979 charged that many programmes to alleviate youth unemployment are in practice mere palliatives which fail to get to grips with faulty socio-economic structures.

Programme organisation and content

In many schemes the original philosophy was to avoid any kind of pretention that the training was like a 'school'. In terms of organisation, content, learning environment, even name, they were designed to be as different from a 'normal' school as possible.

Such theory, however, became hesitant in practice. There was hesitation as to whether to include general educational subjects (like language) in the programme, unless they were very practical (health education) or provided for some form of group motivation (civics or development studies). At present there is debate as to the desirability of including subjects such as arithmetic or book-keeping, though it is more about how this can most successfully be done, rather than whether it should be done.

In spite of intentions and designs, many training arrangements became increasingly formalised, taking on many of the familiar features of ordinary schools such as a standardised curriculum, professional staff dominance in decision-making and the use of tests, examinations and certificates.

All this has resulted from a combination of pressures: from below (parents, trainers) and from above (politicians, administrators). In the case of the former it is related to scepticism about the value of the non-formal features of programmes, presuming that its standing in the labour market, and thus the future of the youth, would be considerably enhanced if the training was more 'properly' organised. The influence from above stems partly from a desire on the part of politicians to concede to popular pressure where this seems to be advantageous (thereby turning youth training into a valuable object of social policy), and partly from administrative preference for standardisation and orderliness.

While this tendency towards formalisation is not necessarily a general one, the issues, however, are clear: is formalisation necessary? Can the best qualities of formal and non-formal education and training be found and blended?

Aims and effectiveness

Like any programme, the value of a youth programme can only be adequately judged in relation to its real objectives. Here vagueness abounds: programmes have become different things to different people, resulting in a situation where the actual result may satisfy none of them.

Although in agricultural schemes it is generally clear that the intention is to assist young people towards independent farming, craft programmes often follow a 'middle course': advertising themselves as preparing trainees for

wage-employment as well as for self-employment. It is thus implied that the same programme can equally well serve both ends and that all that is needed is good quality training. It is highly questionable as to whether this implication is correct: self-employment may require not only a different set of technical skills, but also a wider variety of non-technical skills than is the case when wage-employment is the end.

In so many cases young people entered training centres with the hope of improving their chances for access to jobs in the modern sector. Such expectations, supported by parents and the community at large, may well encourage a programme to focus almost exclusively at wage-employment and thus strengthen the tendencies towards formalisation noted earlier. In turn this may further increase an institution's association with wage-employment. Even agricultural training schemes have suffered from this tendency.

Part of the problem may be the undefined nature of self-employment itself. It makes all the difference to a young person as to whether he can look forward to having a tiny business under a tree in his backyard, or to start off in a real workshop with storage space, access to electricity and support services. Similarly he may be choosing between being all by himself or having some measure of joint activity with friends.

Another part of the problem is that of follow-up, particularly in the case of national youth schemes. Being rather diffuse in focus and catering for relatively larger numbers of youth, such schemes have found it difficult to prepare youth adequately for specific roles. Settlement arrangements have frequently collapsed due to poor preparation, lack of support and problems of supervision. On the other hand, some (like the Malawi Young Pioneers) have built up a record of success in settling groups of trainees at low cost.

Production

Another issue which has become important is the nature and role of production as part of training. In recent years there has been renewed attention in Africa to the value of including production activities in education and training programmes. This partly resulted from a re-thinking of the traditional educational concept of 'learning by doing', and from a practical as well as ideological concern to break down the barriers between school and real life, between intellectual and manual work, between theory and practice, and between town and countryside, making for more effective learning, especially in terms of attitudes and values.

But while this approach seems eminently appropriate for a training centre, some important questions remain. One concerns the extent of which conditions can be created within the centres which are similar to those trainees can expect in their future productive life. The production unit may be artificial: it may have a well selected site, ample stock of materials, constant supervision of production, special marketing arrangements and, if necessary, sufficient financial reserves. All these conditions are conducive to the generation of good technical skills, but they may not be conducive to entrepreneurial skills, which are more likely to be fostered in a tight economic situation where resources are scarce.

The basic question here is, what is the main purpose of the production unit? Is it to prepare trainees more effectively for their future as independent producers, or is it mainly to make a profit for the centre so as to recover training costs? Even though in both cases social objectives may be achieved, they are not necessarily complementary. Where the conflict is not an educational one - the incongruence of training and work situation - it might be an economic one - the production unit of the centre 'competing' with its graduates.

These problems have led some educators and administrators to turn away from institutionalised training and to favour forms of employment-based training. It is argued that this reduces costs considerably and that it is more effective as it provides training in a real production environment. Others, however, argue that employment-based training leads to poorer training as it will be less structured, not catering for the wider social and development needs of young people, burdening them instead with too many responsibilities at once. Moreover it excludes all future options other than wage-employment.

Control

Finally, there is the issue of control. As noted previously, youth programmes in Africa have been set up by a multitude of different organisations, varying from central government to local community groups. Many have retained a measure of local control, involving parents, elders and other leading citizens. Where voluntary organisations have taken the initiative there is frequently a provision for some kind of local advisory committee. Over the years, however, there has been a tendency for governments to become more involved in the control of schemes, partly as a result of requests for subsidies from the centres, and partly from their own increasing concern about out-of-school youth.

The extent to which governments have become involved differs from country to country. In some there is only co-ordination in the policy field. Elsewhere, governments have also set up instruments for administrative and technical intervention, coupled to the supply of funds. Some governments engage directly in the business of youth training, not only by establishing national youth service schemes, but also by establishing training centres directly controlled by a ministry.

Increased government involvement, while welcomed in some quarters, has also led to tensions between governments and management committees, particularly about training policies. Often, voluntary and community organisations feel the emphasis should be on low-cost training for rural self-employment. Governments, on the other hand, representing national interests, attempt to reconcile local needs with national needs. This tends to result in an institutionalisation or formalisation of training arrangements.

The situation is made more complex by the presence of foreign donor agencies. These too have their own views and for many years regarded non-formal training schemes as an excellent conduit through which to reach disadvantaged, especially rural, groups. Armed with ample budgets and technical personnel they have invaded programmes all around Africa and made their mark on their

development. While their assistance is generally welcomed, little is known about the impact of their involvement upon the operations of programmes and their ultimate effectiveness, not least because of the secrecy which so often surrounds the agencies' evaluation reports.

Finally, there is the question of the extent to which the young people themselves, whose opinions are often disregarded or branded as immature, irrelevant, or unrealistic, can be involved in roles other than being clients and recipients.

It is not possible for this report to address in detail all the issues noted in the preceding discussion. However, by referring to existing reports and documents, and through the personal investigations of the author, it seeks to highlight some of the issues in the context of Botswana and Zambia, so as to point to directions for further policy development. As noted in the introduction, the emphasis is on the relevance of training arrangements for self-employment and, in more general terms, for employment generation.

Youth training in Botswana is closely associated with the Brigades. While there are other types of youth project, the Brigades have become a main feature of the Botswana educational scene and have caught worldwide attention as an example of successful educational innovation. One result is that much has been written about the Brigades, especially their philosophy and organisational principles. Less attention has been given to the effectiveness of the programmes in terms of their original objective - rural development - or in terms of the broader development aims of the Botswana government.

In order to comment on the value of the principles of Brigade training and the desirability of replication in other countries, it is worthwhile considering how the principles underlying the Brigades have been institutionalised within the socio-economic context of Botswana and how the Brigades have developed in response to demands made upon them by various interested groups, including employers, administrators, parents and the young people themselves.

The socio-economic context

When Botswana gained its independence in 1966 it was a very poor country, its population being dependent on cattle-raising and subsistence agriculture, as well as on the income of workers emigrating to South Africa. Development was hampered by the shortage of water supplies, a low population density and transport problems.

A customs union allowed South African industries free access to the Botswana market and because of lack of employment opportunities within the country, many able-bodied males travelled for work in the mines and on the farms of South Africa. For years the number of people employed in South Africa outnumbered those having wage-employment within the country itself. By 1968 the latter number had barely reached 25,000: 7% of the total labour force.

Things began to change with the opening of the diamond mine at Orapa in 1971 and the copper and nickel mine at Selebi-Phikwe in 1973. Within a short period large amounts of capital (mainly South African) were invested in Botswana, resulting in dramatic changes in the economic structure. Between 1968 and 1978 GDP grew three times in real terms, the contribution of mining rising from 1.6% to 14.9% in the same period. By contrast, the sectoral share of agriculture declined from 41.8% to 20%. In terms of exports, a dependence on beef (96% of total export earnings in 1968) was replaced by one on minerals (69% in 1978).

What has not changed is the economic domination of South Africa. The customs union protects South Africa's exports to Botswana and the balance of trade weighs heavily against Botswana, mainly because the country has attracted little industrialisation. At the same time South Africa controls the production of diamonds as well as their marketing.

Nevertheless, employment in the formal sector now numbers 100,000, or 22% of the labour force. Though all sectors (except for agriculture) have gained substantially, the increase was highest in mining and government services and it is clear that the new employment is heavily biased towards services and commerce rather than towards productive activities.

The economic boom has also led to significant shifts in the geographical distribution of the population. Not only did mining activities lead to the creation of new towns, but some existing ones faced a large influx of population. At the same time migration to South Africa has decreased, mainly because of fewer opportunities for work for such migrants: interest in working across the border, where wages are often twice the going rate in Botswana, has not lessened. While employment in the country has increased dramatically it has not matched the growth of the labour force as a whole or even the growth in the supply of manpower with various levels of educational qualifications. The 1981 Census results show that the majority of the labour force of 450,000 (ie all those between 15 and 64 years of age) is still dependent on rural subsistence agriculture. A small but growing number of people are involved in informal sector activities, and the number of people interested in stable and productive work is growing, as more school-leavers enter the labour market each year, and as more people leave rural subsistence work to look for jobs in urban centres. The Census counted not only over 30,000 people who said they were actively looking for work, but another 6,000 who were involved in casual wage-work. It is also likely that the large numbers which were counted by the Census as 'economically inactive' (34% of the labour force) not only included those attending school, but also many men and women who had given up looking for work or were socially or economically discouraged from trying.

Thus the economic changes are producing an increasingly differentiated workforce. Many people, mainly those with high educational and training qualifications, move into secure government or private sector wage-employment. At the same time increasing numbers of less qualified people attempt to get by through casual work or within a growing 'informal' sector of the economy. Finally there are those - the majority - who remain in rural subsistence activity. While within the government service and the formal private sector the range of income is very great, even the lowest paid employee in the former earns twice the national per capita income. In rural areas, where cattle ownership is very unequally distributed, there is a wide social differentiation. The last National Development Plan noted that three-quarters of all rural household incomes were below the national average and that the richest 10% has an average income (in cash and/or kind) that is 57 times higher than that of the poorest 10%.

While maintaining income differentials provides incentives, the government is attempting to reach a somewhat more equitable distribution of income and wealth by trying to create more economic opportunities for the disadvantaged groups in society. The benefits of growth achieved through intensive capital investment in mining and other exports can finance projects of benefit to the nation as a whole. While initially the emphasis was very much on physical and social infrastructure (especially roads, education), at present the focus is more on the direct promotion of work opportunities, particularly in rural areas, through a provision of vital services to support private efforts. The watch-words are rural development and employment creation, with both being pursued through a variety of agricultural and industrial support programmes. Through equal and enlarged access to education as well as to the means of production it is hoped to give many more people a chance to improve their living standards.

Education and manpower

With increased state revenue devoted to an expansion of the educational system, enrolments at all levels increased dramatically between 1971 and 1981. The government has accepted a recommendation of the 1976/77 National Commission which reviewed the educational system, to aim for universal access to junior secondary education, thus providing every child with 9 years of basic education.

It is obvious, however, that even if the government is able to achieve this target, large numbers of youth will have to leave the educational system prematurely for some considerable time. The worry here, in the government as well as among pupils and parents, is mainly about employment opportunities. A report on manpower planning in 1982 showed that at the Standard 7* leaving certificate level labour demand (formal sector only) totalled 31,460 compared to an accumulated stock of labour of 105,977. At the junior secondary level a labour surplus of about 10,000 was registered, but demand here was mainly for those possessing a junior certificate and some vocational training. At the same time there was a shortage of workers having a full primary certificate (or less) with training. In this category there was a supply of approximately 6,000 as against a requirement of almost 14,000.

Assuming a continued growth of the economy, forecasts were favourable for school leavers with a junior secondary certificate and higher, but very negative for those with less education, except if they had further training. The survey concluded that a quantitative expansion of vocational and technical training would be needed, at all levels of educational attainment, including the lowest, and it is this level at which the Brigades are operating. The report estimated that the Brigades had built up a stock of 4,336 junior craftsmen, whereas the requirement in 1981 for those with full primary education with training was 9,398, with the number expected to rise to 17,064 by 1989. With their present enrolment of 832 held steady and an annual output of 416 the Brigades could supply a total of 7,000 towards the 1989 requirement.

While prospects look bright for those with training, prospects in the labour market for early school leavers with only a general certificate are very dim. Their problem appears to have been exacerbated by the structural developments within the Botswana economy. Whereas the mining sector, where so much investment took place, is very capital-intensive, producing relatively few jobs, government, which has always been the largest employer, has a great demand for people with formal education. The relative over-development of public services against production has contributed to a situation whereby there is a great shortage of highly educated manpower (in 1980 47% of all employees in the professional/technical and administrative/managerial categories were still expatriates) and a great surplus of poorly educated workers. Apart from the replacement of expatriates, it was expected that about 8,000 new jobs would become available each year against a total of about 20,000 new labour force entrants. Most of these jobs require education and/or training. Thus the recommendation has been for the government to create more labour-intensive work (for example, in construction and maintenance) and for a twin strategy of support for the less education-intensive private sector together with an increase of training facilities for early school leavers.

*Note: Standard 7 represents the seventh year of education.

The employment problem is greatest among the young, particularly the 15-19 age group. According to the 1981 Census, 30% of those in this age group who are economically active consider themselves to be an employee (in the formal or informal sector), 47% are engaged in family agriculture, and 22% are actively looking for employment or are casually employed. These latter include more young women, who on the whole are less economically active than young men. If the many young people who are discouraged from looking for work were to be included, the unemployment rate would be much higher. Viewing the labour force as a whole, 56% of the 'hard core' unemployed are young people aged 15-24.

The employment problem has had its effect on educational policy. It is hoped that the interests of the minority that will enter 'educated employment' can be reconciled with the needs of the majority that does not. In accordance with the recommendations of the National Commission on Education, the emphasis is on primary education and non-formal education, both of which have to be geared to everyday life, with schools preparing children for a "useful, productive life in the real work", whether in employment or self-employment, through relevant basic skills and a practical bias to the curriculum. A focus on work-related skills would follow this basic education and be provided through Brigades or other non-formal programmes organised by non-governmental agencies.

The nature and objectives of the Brigades

The Brigades were conceived and initiated as private projects aimed at assisting young people who were squeezed out of the educational system at the Standard 7 level. Started in Serowe in 1965 by Patrick van Rensburg, the Brigades were created to offer such young people some continued general education as well as practical skills in a number of different trades relevant to the development needs of the country. With the number of school leavers amounting at that time only to a few thousand, Van Rensburg hoped to design a training system which would not only be effective in preparing them for employment, but would also be replicable on a larger scale. In this way an alternative to an academic school would be created that would be a model for further educational innovation, producing graduates with an awareness of the socio-economic context of labour and a commitment to national and community development, as well as having the skills to help bring it about.

The central feature of the Brigades is that they aim to combine training with genuine production. Given the prevailing poverty in the country at the time they were first established, and the scarcity of resources, production became the key to their survival: it would enable trainees to earn money and thus recover at least part of their costs while being trained.

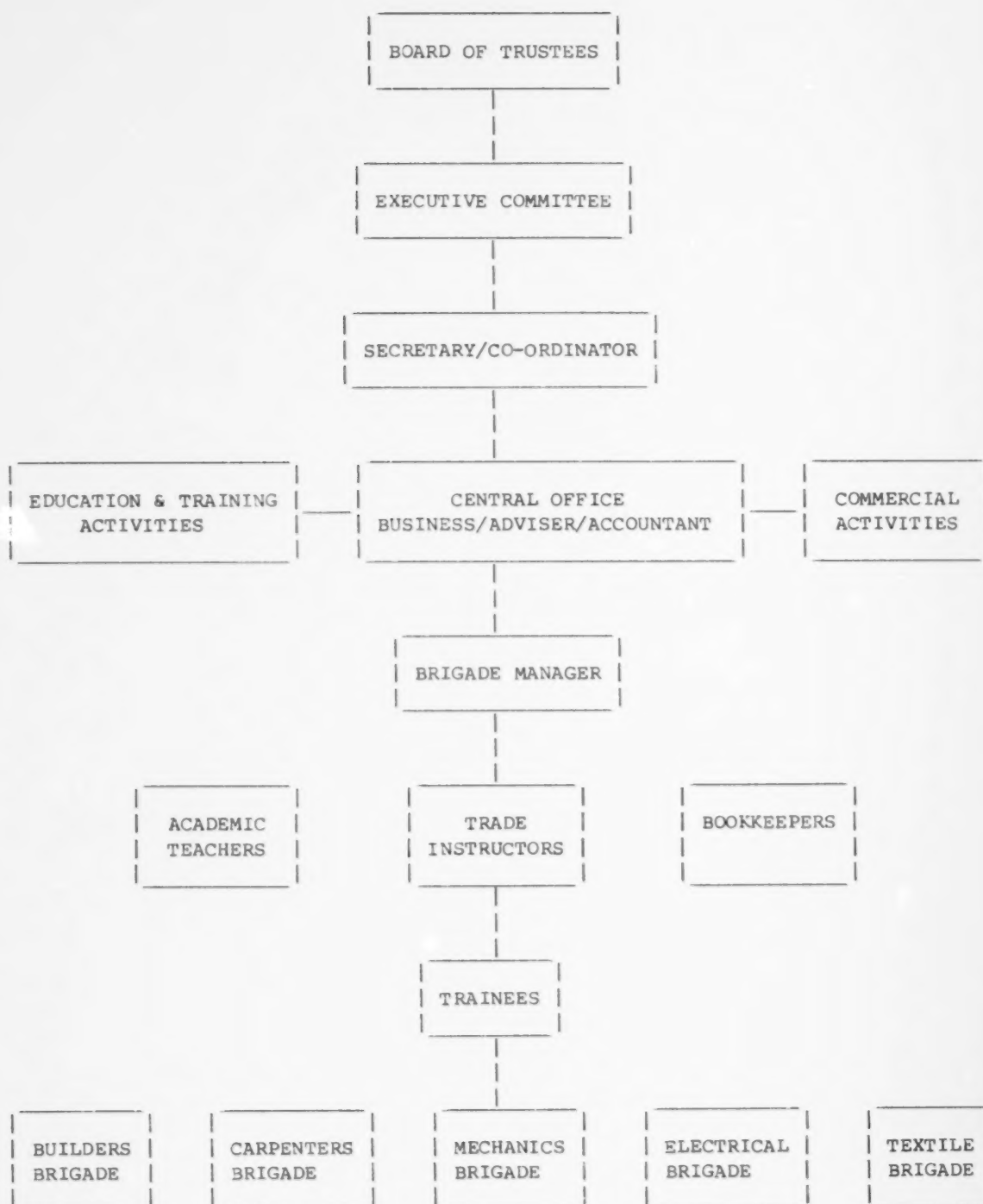
In broad terms the objectives of the Brigades are:

- to provide young trainees with education, coupled with production for employment/self-employment, and self-reliance, by equipping them with functional skills in different trades geared to enhancing their productivity;
- to promote development of co-operative enterprises, which could provide capital and thus help reduce education/training costs;

- to promote the idea of self-employment and self-reliance by involving the trainees in the organisational and administrative aspects of running Brigade Centres. This ensures their exposure and participation in the social and economic development of the community;
- to steer the young people and the community away from the grip of the international economy by utilising, as far as is feasible and practical, local materials, and by adopting appropriate technology in the productive activities;
- to provide a human, people-orientated type of development and to instill a sense of pride in manual work and craftsmanship;
- to increase people's level of political, economic, educational, social and cultural understanding, and to move towards a mass-based training system, extending technical training at the rural level, and linking educational training to production, performance and productivity.

The concept of the Brigade Centre as it has been implemented in Botswana, refers to a cluster of different Brigades (carpentry, building, textiles, leatherwork, farming etc) coming under a common umbrella. While mainly autonomous, each Centre has more or less the same organisational features, shown in the diagram below. There is a board of trustees, which has legally binding responsibility for the Centre as both owner and executor of its assets. Executive powers are given to a secretary or co-ordinator who supervises a central administration unit and co-ordinates the training and production activities of individual Brigades, each of which has its own manager and instructors. A small number of academic teachers provide services to all Brigades.

ORGANISATIONAL STRUCTURE OF A BRIGADE CENTRE



The posts of co-ordinator and accountant are both very crucial, as the success of the Centre will depend very much on their personal qualities and expertise. Ultimately the Trust, through the Board of Trustees, has to approve the Centre's activities. The members are the elected representatives of the local community and they are there to ensure that the Centre serves its needs. Usually they include influential local figures such as chiefs, government officers and prominent businessmen. The interaction between these parties as well as different local circumstances within which Centres operate, mean that Brigade Centres can vary substantially in the scope of their activities, in their emphasis on different types of activities, in their actual involvement in the local community, in the size of their operations as well as in their financial success.

Cost-covering through production is an essential feature of every Brigade. It is a matter of survival for Brigades to become as much as possible an economic enterprise. Thus they have been forced to present themselves to the 'market', trying to meet a local demand for housing, furniture, crafts, or mechanical services. Many Brigades, especially the building ones, began by developing very close links with a local project and/or major client, for example a secondary school or a Town Council. This connection, because of its sometimes concessionary terms as well as the free provision of advisory and management services, has done much to provide Brigades with initial work experience and still serves as a last resort in the event of a lull in commercial demand or too heavy competition in the open market.

The training provided contains two elements: classroom work in vocational subjects to back up the practical application in the workshop with some trade theory; and instruction in academic subjects such as English, maths, development studies (which is a specially designed course in social and economic studies) and general science. Such academic courses are often run in the evenings and serve partly to help the young people to understand their socio-economic environment and their own position in it.

When the first Brigades were started in 1965, young people leaving primary school were typically aged sixteen or seventeen. Since that time, however, the Standard 7 leaving age has dropped to an average of thirteen, while the entry age into the Brigades proper has remained as before. Some centres have filled up this gap by offering a 'bridging course' with a larger element of academic teaching and a less rigorous programme of production, but in areas where these courses are not provided prospective candidates for the Brigades have been roaming around for some years, perhaps doing stints of casual work, or helping their fathers or relatives with cattle far away from the village.

Brigade development

The Brigades have developed quickly over the years, from the modest beginning of a Builders Brigade attached to Swaneng Hill School at Serowe to a countrywide network of institutions involved in activities ranging from carpentry training to hotels and afforestation programmes.

The original Serowe Brigade Centre soon expanded, adding a carpentry section. Later a craft programme was started in spinning, weaving and dressmaking for girl trainees. This was followed by a farmers brigade, and one for mechanics and metal working. Patrick van Rensburg, the co-ordinator at Serowe, reports that by 1976 the Serowe Brigades were producing a wide range of goods and services, involving the training of 251 people in 17 different Brigades by a total of 39 instructors, of whom 14 were expatriates.

The success of the Serowe Brigades soon led to similar initiatives elsewhere in the country. In Lobatse, a Builders Brigade was started in 1967, mainly to cater for the increasing housing needs of the township. Training and management was provided by the Community Development Department, as well as some initial support costs. In Francistown the Community Development Department was the initiator of a Builders Brigade, while Mochudi saw the beginning of a new type of private association - the Kgatleng Youth Development Association - starting a leathercraft workshop and a farmers' brigades. Such an independent association, formed by local people interested in the development of their district, soon became the typical model for setting up and running Brigades in different rural centres, such as the Kweneng Rural Development Association at Molepolole, and the Kanye Brigade Development Trust at Kanye.

In 1974 the 'Brigade movement' included 11 Brigade Centres around the country with 43 Brigades and Brigade-type operations involving approximately 900 trainees and 100 managerial and instructional staff. Brigade enrolment expanded rapidly during the 1970s reaching its highest number, of 1,144, in 1978, thereafter falling to 683 by 1982. The details are shown in the table below.

DEVELOPMENT OF THE BRIGADE CENTRES

LOCATION	NAME OF CENTRE	NUMBERS OF TRAINEES						
		1976	1977	1978	1979	1980	1981	1982
BOBONONG	Bobonong Brigades Centre					20	21	26
GABANE	Tshwaragano Craft Centre	-	6	12	11	9	-	-
GABORONE	Gaborone Development Trust	-	-	-	10	6	-	-
KANG	Matsha Brigades Development Trust	-	-	-	-	-	-	-
KASANE	Chobe Brigades Development Trust	-	10	28	11	5	5	4
LOBATSE	Lobatse Brigades Development Trust	74	95	82	71	93	94	92
LOBATSE	Tiro-Ya-Diatla	-			8	7	-	-
MAHALAPYE	Madiba Educational Training Centre	79	107	97	81	83	74	72
MAHALAPYE	Mahalapye Development Trust	-	48	40	48	135	-	-
MAUN	Maun Brigades Development Trust	62	62	83	42	28	51	66
MOCHUDI	Kgatlung Development Board	68	93	69	61	56	52	58
MOLEPOLOLE	Kweneng Rural Development Trust	95	96	99	94	81	53	49
MARAPONG	Marapong Development Trust					-	-	-
PALAPYE	Palapye Development Trust	55	44	29	35	41	48	44
RAMOTSWA	Tswelelopele Centre	40	45	66	36	37	46	64
SEROWE	Serowe Brigades Development Trust	230	305	317	330	244	70	33
TONOTA	Shashe Brigades Development Trust	90	23	73	67	62	70	71
TLOKWENG	Tlokweng Rural Development Trust					-	-	-
TUTUME	Tutume McConnell Community Trust	87	84	90	69	59	63	67
TAKATOKWANE	Kgalagadi Settlement Project							-
TOTAL TRAINEES		966	1127	1144	1006	983	676	683
EMPLOYEES: CENTRAL ADMINISTRATION		60	75	86	120	114	140	148
MANAGERS AND INSTRUCTORS		128	130	200	232	467	121	240
LABOURERS, Workers, etc		320	374	483	865	701	531	630
GRAND TOTALS		1244	1393	1596	2223	2265	1468	1701

Much of the tremendous expansion has been made possible by external financial assistance, which has come from three main sources:

- funds generated by Brigades themselves from successful commercial activities;
- grants or loans from external agencies to the government for the Brigades in general. (An important source in this category has been the World Bank supplying funds through the Biopolego Education Project);
- external donors funding individual Centres (these donors have been particularly instrumental in getting Brigades off the ground).

Over the years individual Centres expanded in different directions, as a result of the preferences of the Centre's management, and the local community, as well as of the willingness of donor agencies to fund new activities. In a number of cases this has led to a deviation from the original purpose of providing training towards general rural development activities including the running of health centres, afforestation programmes and the provision of agricultural extension services to the adult population. Some centres have become large conglomerates with many different units often serving different purposes.

Training and production

The Brigades Review Working Group distinguishes between four main categories of Centres currently in existence:

- Category 1 : These are Centres which have concentrated mainly on formal vocational training: they include those at Lobatse, Madiba (Mahalapye) and Tutume.
- Category 2 : Some medium-sized Centres have chosen to strike a balance between vocational training and production, and as a result, tend to be more manageable and financially stable. Examples are the Centres at Maun, Kanye and Ramotswa.
- Category 3 : The Serowe Brigades Development Trust and the Kweneng Rural Development Association are in a category of their own on account of their size. Each was until recently operating approximately 20 units in a range of activities. The Serowe Centre has tended to emphasise formal training with production, where, as the Kweneng Centre has concentrated on production and rural development activities, with less emphasis on formal training.
- Category 4 : Lastly, a number of Centres have concentrated mainly on development work through non-formal training courses, extension work and demonstration projects. A particular aim of these Centres has been the promotion of self-employment. They tend to be small, and to have been established fairly recently. Examples are the Gaborone Development Trust (operating at Old Naledi), the Mahalapye Development Trust and the Kgalagadi Settlement Project.

The ways in which training and production activities inter-relate in each of these types of centre are now described, through four examples.

Category 1 : Emphasizing training

The Lobatse Brigade Development Trust consists of three units, each offering a three-year course leading to the most basic form of trade test (Trade Test C), one in bricklaying with 36 trainees, one in carpentry with the same number of trainees, and one in plumbing with an enrolment of only 16. Each unit has three instructors as well as a manager. Presently all of these staff are Botswana, except for one Danish volunteer. The training units are also productive units, although trainees in the first year, while receiving basic training, are only allowed to work on orders for basic furniture such as kitchen chairs, tables and benches, in which only handtools are being used. At the same time they also join the bricklaying trainees to do the rough carpentry work on construction sites. Only the more senior (second and third year) trainees undertake more complex orders such as joinery work for offices and shops, using power driven equipment for the preparation of the wood. At this level the unit operates like a fully fledged business, using not only trainees but also employing some former graduates to ensure high quality and timely delivery of orders.

None of the units is short of orders and this is attributed to good quality as well as competitive prices (higher overheads being off-set by substantially lower labour costs). The Brigades have a good relationship with the Lobatse Town Council and at convenient times both the council and the business community are reminded that the Brigades are a development programme training the youth of the town, and there appears to be a tacit understanding that the Brigades need special support through orders to enable them to fulfil their purpose. The revenue thus generated covers materials costs and contributes to administrative overheads. Government subsidies, of P 400* per trainee per year, as well as occasional community donations, supply much of the remainder of the recurrent budget, and trainees are asked to pay fees of P 137 if they are boarding and P 50 if they are day-trainees, although those who are selected for admission but cannot pay are promised special consideration. Allowances to trainees are not paid. Overall the training is very much directed at instilling technical skills and producing tradesmen of reasonable quality. Although the Centre claims that the standard is really of Trade Test B standard, the Ministry of Education does not allow trainees to enter for this test. Nevertheless, graduates are said to be in high demand among formal sector companies, some of which maintain direct contacts to facilitate recruitment.

The production element has been made to serve the training as much as possible. The staff insist that training and commercial production complement each other very well and that the demands of both can be met: incoming trainees receive a separate programme with an adjusted work training schedule, thus allowing the seniors to concentrate fully on production.

*Note: In 1980 1 Pula = US \$1.26; in 1983 1 Pula US \$0.86.

The training appears to be focussed exclusively on the technical side: there is little of the interest in serving other educational goals, such as the development of business skills or the instilment of alternative social skills and attitudes towards production, that were originally proclaimed at Serowe.

Thus in their general orientation the Lobatse Brigades are similar to ordinary formal trade schools, except that they have a greater emphasis on production, a feature which not only reduces costs, but, given the manner in which the production principle is applied, makes for a more effective induction into a formal production system. This shows that the introduction of production into a training situation in itself does not necessarily make for an 'alternative' approach. It anticipates the role of a wage-worker rather than that of the self-employed or cooperatively employed worker.

Category 2 : Striking a balance

The Kanye Brigade Development Trust was founded in 1977, replacing a former Youth Training Centre that had been operated under the Community Development Department since 1968.

The new centre, established at a different location, quickly gained support from donors, and within three years almost P 300,000 had been granted for capital development by 13 different (mainly foreign) agencies. The World Bank supplied over half of this amount.

The Trust has become a small grouping of different Brigades, engaged partly in training, partly in production and in extension programmes. It now has two training units: one in building and one in mechanics. Both are attached to production units. There is also a separate knitting centre, a small extension unit and a shop for the sale of crafts and agricultural produce.

The Builders Brigade has two separate units. One (the Ngwaketse Builders Brigade) provides a two-year training programme to 12 Standard 7 leavers annually leading to Trade Test C. The other (Gasumana Construction) acts as a construction company; it has a small number of employees but contracts additional labour from the training unit to work on projects. As at Lobatse, the production work of first and second years is kept separate so as to ensure a grading of learning experience and increasing efficiency on the job. Fees, however, are lower - day trainees, for example, pay only P 21 per year, and they now receive a fixed allowance of P 5.50 in the first year and P 9.50 in the second.

The mechanical Brigade is the Tshipidi Mechanical Brigade. It was first established in 1980 and trains 5 young people for a three-year period in vehicle repair and maintenance, leading up to a Trade Test B certificate. Training takes place on the job: the workshop offers services and spare parts in a village that previously had to rely for them on South Africa.

Kanye is one of those Brigade Centres which has attempted to set up separate production units, which aim to offer employment opportunities as well as to provide financial support to the Centre. So far the construction unit and the knitting centre have employed about 20 men and women. Financially, both showed a net profit for the year 1981/82 and thus have been contributing to the training units as well as to the costs of administration, ensuring that the Centre as a whole suffers only a small loss.

Kanye, however, has had bad experiences with production units, both because of problems with management and because of wider economic problems. There used to be a horticultural unit. Apart from technical difficulties, its collapse (after two years) was attributed to the fact that (expatriate) management was neither continuous nor appropriate and that production costs were too high to meet South African competition. Management problems also led to a drastic streamlining of Gasumana Construction and its discontinuation as an independent unit having its own labour. At present it is experiencing serious difficulties in obtaining local orders, due to heavy competition. Again (as in Lobatse) the 'social argument' has to be used to secure projects (the knitting centre has, however, sufficient work, mainly because it produces jerseys, scarves, etc for a specific set of local schools). These problems stem not only from the difficulty of attracting and keeping local management expertise, but also from the very process of economic development to which the Brigades have contributed. Brigade production can be very valuable in rural centres where no products or services are being provided and where South African competition is weak. But, in the course of time, as development of the modern sector occurs and there is increasing purchasing power among the growing urban middle-class, many small companies have sprung up, sometimes run by ex-Brigade trainees. Thus production by Brigades, whether as part of training or in a separate unit, can face an increasingly competitive market. This has affected not only the orientation of the actual training, but has clearly also brought about developments within the production units: less reliance on small hand tools, the installation of more sophisticated equipment, and the instigation of hierarchical approaches to the organisation of production.

The knitting centre within Kanye (the Iteko Knitting Centre) is a case in point: the women used to do the knitting by hand, but it was decided to mechanise the process so as to speed up production and increase income. The unit stopped its training programme when no government subsidies were forthcoming. Instead new employees are given short introductory training to make them familiar with the machines. The unit employs ten knitters, who are paid by the piece, and three seamstresses, who belong to the daily-paid staff. The women do not participate in any production decisions and there are no plans to help them to do some knitting on their own: in fact, mechanisation has made it more difficult to use their skills in self-employment. Although this approach produces more profits to assist other Brigade units, it clearly raises questions. It is interesting to note that when the horticultural unit at Kanye collapsed, a group of five women who were left jobless decided to stay together in a cooperative and to continue production. Now they are provided with some extension services by the Trust through its Boitlamo Extension Programme, which is completely financed by a donor agency.

Category 3 : Production and rural development

Molepolole is the headquarters of the Kwaneng Rural Development Association. Since its inception in the late 1960s, the Association has grown into one of the biggest Brigade Centres, incorporating a wide variety of training, production and extension services. Association officials note that all along the emphasis has been on the creation of productive employment and rural development, training being a secondary objective. To this end the Association established a host of activities which, initially, included a game reserve and the production of handicrafts. Soon, however, under influence from Serowe, some vocational training activities for school leavers were started, in carpentry, building, dressmaking and farming. Later, when it was found that few of the graduates remained in the district and that the majority obtained work in South Africa or in the new industries of Botswana, it was decided to set up additional production projects separate from the training. Their main purposes were the creation of local employment (enabling many graduates to remain and become productive in the local community) and the generation of funds (from which other Association activities could be financed). Thus a brickyard, a forestry unit, a horticultural unit and a bee-keeping unit were established, as well as ventures such as a shop and a hotel. All these activities were seen to provide essential local services which were previously not available. Towards the late 1970s, more attention began to be paid to assisting those people who were already engaged in rural subsistence activities: a Horticultural Extension Unit and an agricultural service centre were set up. Through such endeavours it was hoped to contribute to higher productivity of the marginally employed.

By 1980 the Kwaneng Association had become a vast organisation, with 19 different units (only four of which were training units), employing 208 Botswana as well as 22 foreign volunteers, and consuming an annual budget of over P 1 million. It had come to serve a number of different objectives, accumulated over a decade of changing socio-economic circumstances at the national and local level, and all related to employment creation and rural development. But at the same time the organisation had got into great trouble. A 1980 local evaluation report was highly critical, charging that the organisation had become too big and therefore unmanageable, that it attempted to do too many things for too many people, without much coherence, clarity of objectives, or accountability towards the local community. In general, the Association's purely commercial projects were found to have failed. Most of them, instead of compensating for the losses of training or development units, were not able to make a profit, despite very generous support from donor agencies and the constant stream of 'free', highly educated and skilled, volunteer managers and technicians.

Part of the problem lay in the wider economic developments which have been referred to earlier: Brigade Centres ventured into production and commercial activities for which there was a need from the point of view of local demand and national self-sufficiency. Yet in many cases such ventures could hardly become profitable given the smallness of the local market or the unimpeded and heavy South African competition, which extended even into horticultural and dairy produce. Where Brigades identified a genuine economic opportunity they were soon followed by some efficient private entrepreneurs who wiped out their early profits. Even their subsidised nature could not make up for the financial consequences of ineffective management and poor assessment of the market.

Since 1980 several of the Association's commercial units have been hived off or dissolved, while others have been streamlined and reduced to a more viable level. The number of foreign volunteers has been drastically curtailed. But production within the three current training units is still in difficulty: both the carpentry and building sections have problems selling their produce and obtaining orders. It was noted that even the District Council was hesitant about doing business with the Brigades, mainly because of the ostensibly bad quality of production as well as (in building) the length of delivery time. Officials at the Association attributed both to the departure of the foreign volunteers. At the same time the 'social argument' was said to run up against relationships existing between councillors and other contractors.

Category 4 : Promoting self-employment

In the Mahalapye Development Trust training of primary school leavers is exclusively being carried out by the Madiba Education and Training Centre, which is a Brigade Centre of its own. The Mahjalapye Development Trust is also a member of the Brigade Movement, but is only involved in productive employment and social development activities. The Trust runs several production and service units: two in textiles, a blockyard and a sorghum mill, a few extension units (in farming and horticulture), and several education facilities, such as a non-formal programme for primary drop-outs and Standard 7 'failures', a vocational training unit for commercial subjects and a clinic-cum-family centre.

The objectives of the production and service units are similar to those in other Brigade Centres: to generate funds to sustain other development activities and to provide valuable community services. Of the textile units one, Tshwaragoro Textiles, has its own workshop as well as store. A group of five women produces dresses, shirts, and children's wear, using light industrial machines. They also do some block printing and tie and dye. There are no fixed wages, but women are paid a percentage of the selling price of the articles. The other unit, located at Baitivedi, is mainly for training. It is located in the family centre, where family welfare educators teach young girls some sewing, knitting and crocheting. The training is aimed at self-employment, though it is all left to the girls how they use their skill in the home situation: no follow-up services are provided.

In agriculture a volunteer is undertaking extension work, focussing mainly on horticulture and poultry. One of his activities is to encourage the formation of 'garden groups' which are collections of individuals, varying in sex and age, who all have their own vegetable plots but agree to secure and operate some equipment jointly, for example fences, pumps and implements. They also arrange communal workdays for repair and maintenance. Apart from this the Trust owns a farm, now under a Motswana manager, but of which only a small part is used for production. It was intended to use the farm for experiments and demonstration but the resources for such purposes were not available. The aim still is to move into areas of activity which the government at present cannot undertake but which they might take over in due course. This philosophy, of making oneself dispensable, is also considered for the production units. But with the government presently unwilling to accept responsibility for vital services (such as the clinic) the position and role of the Trust in local development appears rather unclear.

A new and promising line is the recent start of a new extension unit, under a Motswana craftsman, aiming at the upgrading of rural artisans. The idea is to run some short courses as well as provide on the spot advice on management and marketing. Unlike the production unit this extension is clearly aimed at stimulating productivity and income of craftsmen outside the Centre.

Training for what?

When the Brigades were initially established at Serowe, they were intended to provide first level training for primary school leavers unable to find employment and excluded from further education. Despite the philosophy of Brigade type training and production as the basis for an alternative approach to development, no clear aims were formulated as to the desired nature of this employment. At Serowe it was accepted that graduates would find wage-employment wherever this could be obtained. The graduates of building, mechanical and carpentry brigades had few difficulties in doing so and all along Brigade Centres have been proud of their good employment record.

A different case was made for those skills in which there were no paid jobs available. This concerned skills such as farming, weaving and leatherwork, into which several Centres diversified. Here it was seen as a challenge for the Brigades to try and generate employment in one form or another. If a real impact on the primary school-leaver problem was to be made, it was imperative that a form of training institution should be developed which could turn out graduates capable of creating their own productive employment and which could be replicated throughout the country: hence, the establishment of commercial ventures.

It is important to note that trainees, who mostly entered Brigades frustrated by their inability to get access to more valued options, have generally had a preference for those trades which prepared them for wage-employment in the formal sector. These preferences stem from a clear perception of the realities of life in Botswana. Thus to the extent that Brigades aimed to develop attitudes different from those fostered by society, there is evidence that, for the most part, Brigades have not been able to move against the current. The main exception concerns what is considered, by all those involved in the Brigade Movement, to be their essential feature: cost-recovery through production during training. Despite frequent opposition by trainees and widespread criticism from outside the Movement, this core feature has been retained, the argument being that training otherwise could not be provided and that replication of the conditions of production would make for the most valuable training. Thus the Brigades have deliberately refrained from becoming ordinary trades schools and have resisted pressures towards such formalisation.

It would appear that the production feature has been appreciated by employers. While it is true that Trade Test results in many Brigades (building, carpentry) seem disappointing, often not reaching 50% passes, in practice there are serious discrepancies between the focus of the tests and actual needs, especially of the smaller companies. Most employers seem to prefer the practical orientation of the trainees and take them on the basis of their Brigade Leaving Cards, which state skills in which instruction has been given.

Nevertheless, even though many Brigade graduates apparently find work in rural areas, this does not necessarily imply a contribution to rural development. Such employment is mainly found either in Brigade Centres or with urban contractors working in rural areas. Training for formal sector employment, whether rural or urban, has given the Brigades functions similar to those of conventional secondary (and technical) schools: to qualify and select candidates suitable to enter a limited number of rewarding positions in the modern sector. They offer an extra chance, albeit an inferior one, for some young people previously rejected by the formal education system to re-enter the race and, perhaps, become part of the new labour aristocracy. In the process the content of training, including the production side, is moulded in such way that it primarily serves the needs of (modern) industry. This may be a very profitable goal of training, but it is not the type that has a direct bearing on the development of the local community, in the sense that it raises local skill levels, local productivity and increases local ability to develop and better control resources. It is significant that everywhere, Brigade officials commented on the high mobility of the graduates, who mostly moved to places other than their home district, and that they were not engaged in local development activities.

Government involvement

After the initial involvement of the Community Development Department, for example in Lobatse and Kanye, the government officially sanctioned the Brigade movement in 1969 by setting up a National Brigades Co-ordination Committee to help plan its future and advise the government on its needs. At present the arrangement is that the chairman of the Committee is provided by the Ministry of Finance (Rural Development Unit), the secretary by the Ministry of Education, and that the members are the co-ordinators or secretaries of the Brigade Centres. Their meetings (held about three times per year) are also attended by invited guests, such as public officers and officials from volunteer or donor agencies. The Secretariat is housed at the Brigades Development Centre (BRIDEC), which was founded in Gaborone in 1976 as a staff training institution.

In the early 1970s the government rejected proposals for a takeover of Brigades on the grounds that it would be too expensive. But it was decided to provide more support, partly through staff training (BRIDEC), partly by helping to secure capital funds (for example, from the World Bank) and partly by providing a direct subsidy by means of per capita grants for those young people being trained in 'employable skills'. On this basis building, carpentry and mechanics qualified, but not farming, weaving or pottery. The formula to determine the amount was 50% of the staff salaries of an 'average' Brigade Centre with 'average' salaries and an 'average' number of trainees: in 1976 this was P 185 per trainee per year and is, at present, P 400.

The funds thus obtained have assisted greatly in offsetting the financial problems resulting from increased competition for the Brigades' goods and services. But at the same time it encouraged many Brigade Centres to focus on those activities for which subsidies were provided and it contributed to the abandonment of projects which had been beset by difficulties, such as those in agriculture. Increasingly distinctions came to be made between 'Training Brigades', 'Production Brigades' (the separate commercial units) and 'Development Brigades' (extension activities), and it became the policy to try and separate these Brigades from each other, not only financially but even physically. Each type would develop closer links with particular Ministries: for the Training Brigades the 1981 Brigade Review Working Group recommended a complete take-over by the Ministry of Education and their gradual conversion into trade schools, making them the lowest echelon in the national technical training structure.

But this has not yet happened. A 1983 government White Paper, responding to the recommendations, accepted full government responsibility for all Brigade activities but stopped short of a complete takeover. Instead professional and financial support will be increased (through BRIDEC) and Brigades are encouraged to redefine their objectives, working towards separation of activities to assure more effective use of resources and manpower. Furthermore Brigades will be rationalised and become part of a high quality national training system geared to the needs of national development.

Brigades and employment creation

It is clear that, in the face of national economic development and the related prospects for Brigade graduates, the objective of training of self-employment is very difficult to achieve. Although in the popular Brigades (like building) the nature of ultimate employment was left open, very few graduates ever chose to start a business of their own after the completion of their training. Where (as in Kanye) some graduates have made attempts to start in business these have not been very successful: lack of working capital and of business experience prevented businesses from growing and competing with larger scale contractors. Where Brigade trainees turned into successful contractors they did so only after working with construction companies for a number of years, acquiring both additional skills and some capital in the process.

Van Rensburg reports that in Serowe attempts have been made to create small self-employment cooperatives, particularly in those skills for which no ready wage-employment was available. The aim was to identify a local need for goods or services, set up a Brigade training programme, and thereafter establish a production unit of graduates using inexpensive technology, locally available raw materials, and simple management techniques designed for application by people with little formal education. Initially these attempts seemed successful. Some of the graduates of the Serowe Textile Workshop were encouraged to set up a business on cooperative lines: the Unity Workshop. Great care was taken to nurture the unit towards independence from the parent workshop. Similar attempts were made in other crafts. However, Van Rensburg notes that incomes from such activities have remained low and that they have been unable to capture the loyalty of young people. As a result, self-employment activities presently mostly involve older people, especially women. All these have now come together in a larger cooperative (Boiteko) encompassing a variety of activities.

More problems beset attempts to set up self-sustaining programmes in agriculture. Originally Farming Brigades were conceived in terms of 'throughput training' leading on to some form of self-employment. Alternatively they might be induced into some form of collective settlement, or return to their family farms and apply their expertise to increasing productivity there. Attempts at Serowe towards collective settlement failed, because of low morale and lack of motivation among the trainees, extraneous factors such as the absence of local support towards obtaining land, the high costs of settlement, and competition from South Africa. Later a new arrangement was devised whereby training would be partly at the central farm, and partly on the land where trainees were to be settled. Unfortunately this also appeared to be very difficult to implement.

All this left, according to Van Rensburg, no alternative in the short run but to establish the better capitalised and managed industrial and communal units that have now emerged alongside training units in Brigade Centres. Here, as noted previously, the emphasis has come to be on the creation of wage-employment in activities relevant to the local community. While at Serowe such commercial projects were established only with reluctance - as they would need expatriate manpower and create complex management problems - elsewhere they were set up with great enthusiasm, as the generation of wage-employment was seen as a major objective. Subsequent experience with commercial ventures, such as that gained at Molepolole, as described previously, fully justified Van Rensburg's fears that the Brigades could fall between two stools: of being vulnerable to criticism as training institutions, and of not delivering the goods in rural development. Commercial projects in a number of Brigade Centres have created a limited number of jobs, but only through heavy subsidies from abroad and in enterprises which generally have not proved to be viable. Moreover, as has been noted, they replicated the very kind of capitalistic production relations in rural areas which the Brigades, in their original philosophy, had aimed to avoid. Developments have thus undermined the functions of the commercial units and the question is whether Brigade Centres should not abandon having such units within their premises and under their control, and instead put in new efforts to create or assist viable production units independently from the Centres.

In the past it has been argued that such units outside the Brigade Centres would not be viable because they would lack competent management and would need a high level of efficiency in order to turn out high quality competitive products. These arguments are still valid but they can hardly be used to maintain a protective, highly subsidised screen around the commercial units, one that has often been shown to be ineffective.

One argument in favour of such separation is that training arrangements as a preparation for self-employment cannot be the same as those for wage-employment if they are to be effective. While the range of core technical knowledge and skills may well be similar, those who want to start a business for themselves need more than this: they need more knowledge about the nature and properties of raw materials; an ability to experiment with new resources, new production technologies, new products; knowledge about marketing arrangements, licencing, co-operative principles, the nature and extent of the government services network; skills in management, costing, book-keeping. Little of this is developed in conventional Brigade training programmes. Indeed, the greater the need for efficient production the more difficult it becomes to reconcile the activities of non-separate commercial units with training for self-employment.

There is also the question of intake. Under present socio-economic circumstances, despite the overwhelming numbers of school leavers, it seems doubtful as to whether such school leavers, even after a short interim period, can effectively be prepared for self-employment. This is not because of age per se, but rather because of motivation. Induction towards self-employment may have to be partly institutional, and partly in situ: it should take place not only in genuine production situations, but also in one for which trainees have great personal responsibility and which will continue to be so, under their (individual or joint) ownership.

Other youth programmes

While the Brigades are undoubtedly the most important programme for out-of-school young people in Botswana, there are nevertheless other projects, more modest in aims and scope, which deserve attention.

Non-formal youth programmes are co-ordinated by a National Youth Council, of which the presidency is held by the President of the country and of which the secretariat has been delegated to the Ministry of Local Government and Lands. For this purpose the Ministry has created a Youth Section, which has been given the task of the coordination of youth programmes pursued by various government departments and non-governmental agencies. Furthermore, it has the task of developing a youth policy and of stimulating wider national attention to youth problems. It also liaises with the Commonwealth Youth Programme.

The section does not have its own field staff. Instead, as part of the decentralisation programme, the national structure is replicated at District (and Town) level with a District (Town) Youth Council and a Youth Officer.

A good example is the youth work coordinated and stimulated by the current Youth Officer in Lobatse Town. Apart from working with various youth clubs he runs his own project: the Bosele Non-School Youth Project. The project, which is funded through donations, offers a variety of recreational, vocational and general educational activities for Standard 7 leavers, young people still attending primary evening classes, and young offenders who are sent to the project for a short period for rehabilitation. A total of 27 boys participate: although all activities are programmed, the project is informal and voluntary in character as well as focussed on the explicit interests of the boys.

On the vocational side there is some pre-vocational training in carpentry and very simple crafts. As for other activities, instructors are local volunteers. Boys learn to produce very simple chairs and benches which are sold locally. Revenues are used to buy extra materials and some tools. The basic purpose is to keep boys occupied in a useful way and perhaps help them to enter a Brigade at a later age or to become an apprentice to a local carpenter. The Youth Officer recognises that the activities are all very marginal and only offer minimal assistance to out-of-school youth. No capital or technical assistance is currently available to improve the quality of the facilities or to give support to initiatives of the boys in the productive or commercial field.

A slightly more production-orientated vocational programme is one offered to out-of-school girls also in Lobatse, called Thuso Ya Basha. This project, resulting from the private initiative of local church women and also supported by grants, offers a two-year general homecraft course for the purposes of general home improvement, including some general education. Now there is a Peace Corps volunteer in charge who is assisted by some local volunteers as well as one instructress in knitting paid from contributions by the girls. There are 21 girls, all Standard 7 leavers, who pay P 5 per term. They learn to produce a variety of simple items, including jerseys for a primary school, which together with the Project, is located on the premises of a Mission. Other products are sold in town from temporary selling points. Girls receive a small commission from the sales at the end of the year.

The Ministry of Agriculture has a programme directed at young people, known as the 4B Clubs. The programme has been in existence since 1967 and aims to involve both school and out-of-school youth in some form of agriculture in the hope of providing them with a basis from which they could benefit if, at a later age, they take up farming. Activities are mainly vegetable-growing, poultry-keeping, and occasionally some sewing or woodwork. The government provides some financial assistance towards the purchase of seeds, fertilizer and equipment.

As it has turned out, the 4B Clubs are currently only found in schools. It was said that out-of-school youth were too difficult to reach. As in the Brigades, efforts to interest them in farming have largely failed. As a result, at present there is virtually no mechanism to provide intensive help to groups of out-of-school youth who would possibly be interested in farming.

Since his withdrawal from the Serowe Brigades, Patrick van Rensburg has devoted his energy to the promotion on a wider scale of alternative approaches to education through the newly-established Foundation for Education with Production (FEP). FEP operates at the international level, coordinating activities of national associations or setting up joint ventures whereby the linkage of education and training with genuine production has not only an economic but also a pedagogical aim. Guided by the experiences of Serowe, Van Rensburg has started a new project under FEP in Gaborone: Tschwaragano Enterprises (TE). The aim is to provide urban out-of-school young people who have migrated from rural areas with the means to enable them to build up cooperative enterprises in construction and horticulture which can compete with the formal sector.

The value of TE is that it is an attempt to fully implement a 'stay-put' model of training. Skill development takes place on the job in the trainees' own production unit. TE is registered as a company with all shareholding and formal control in the hands of the trainees. The idea is that they will be nurtured towards full self-reliance by FEP so that, ultimately, they can squarely face the construction market. FEP would then withdraw and concentrate its efforts on another group of youths.

While the basic principle of changing the emphasis from instructional to in situ training appears sound, implementing it is very much a matter of trial and error, much as it has been for commercial and production units within the Brigades. As in that context, the question is how each group can be given enough protection to help it get established and to resist social and economic pressures, while at the same time acquiring a solid base of capital, skills, organisation and access to the market so as to thrive independently. Additionally, an extra question facing TE is how to handle a situation whereby the owners of a production unit are also trainees, and how instructors can apply their expertise while allowing for full participation by these trainees/owners.

So far the main problem has been to secure a steady source of income in such a way that it covers expenses and repays the loan for the land. Development in horticulture has been slow, and although some building contracts were obtained through private connections, there is still no working capital and no established link to the market. There seems to be a continuous tension between the need for tight management and the principle of workers' control. With deficient skill levels, a poor grasp of the complex urban construction market and difficulties in giving a concrete meaning to the co-operative concept, dependency on external support has been prolonged. In the process, perhaps as a result of their feeling of insecurity, trainees have been allocating themselves fixed monthly allowances which are not justified by revenue. Clearly, time is needed.

National support

Botswana is still a member of the Southern African Customs Union, so that the terms under which Botswana can utilise their country's resources and develop them for mutual benefit continue to be set by the wider configuration of the political economy of the region. Lack of water, long distances, poor infrastructure, and lack of skills are further disadvantages hindering the development of a viable indigenous industry and agriculture.

Given these constraints the government has aimed at using part of the revenue derived from the mining sector to generate more industrial and agricultural activity within the country and to raise the living standards of rural Botswana. Under the key headings of employment creation and rural development, the government has focussed on a variety of measures including an increase in financial assistance for small enterprises, the improvement of the small business extension network linked to financing institutions, a reduction in bureaucratic obstacles to investment and enterprise, improving the access of poorer groups to livestock, improving extension services for small-scale arable farmers and strengthening relevant ministries, re-orientating them towards supporting rather than regulating.

In this way, with the help of government funds, complemented by donor financing, many new programmes have been established during recent years all aiming at increasing economic opportunities. These include the following schemes:

There has been a policy of transferring much responsibility for development to the local level. In industrial affairs this is being done by the Rural Industrial Officers who are field officers of the Ministry of Commerce and Industry, and who operate in conjunction with the District's Production Development Committees. Frequently these committees have to give their approval before funds from national sources are distributed locally. This is, for example, the case with the Financial Assistance Policy, which has become the principal source of financial assistance from government for industrial development. Potentially this could be a useful source of finance for youth production units. The main problem, however, is that the legal minimum age for getting assistance is 21. This raises problems for those small groups of youth of lower age (like in Lobatse) who wish to set up a workshop.

Somewhat more flexible are a few smaller funds which operate alongside the Financial Assistance Policy. NORAD* operates a fund for small pilot activities in group schemes (the LG 17 pilot scheme). The money is disbursed by the government, once approved by the Production Development Committee. The same procedure applies to a separate USAID* fund (the Small Projects Fund), except that here Districts receive annually P 10,000, from which grants can be made for activities in the field of artisan training organised by the local Rural Industrial Officer. There is also the AE 10 government fund in agriculture from which groups (like 4B Clubs) can receive assistance for the purchasing of seeds, fertilizer, or implements. They must, however, put up 10% of the total costs themselves, whether in cash or in the form of labour. Various Development Brigades have already been drawing on these funds for small group projects, although there is no evidence as yet of groups of youths benefitting from this money.

The SIDA*-funded Botswana Enterprises Development Unit constitutes another arm of the Ministry of Commerce and Industry. Established in 1975, its main thrust was the setting up of industrial estates in various towns. They offered workshop space, collective services and capital to new entrepreneurs for a period of four years, after which it was intended that the entrepreneurs would move out to start again elsewhere with their earned capital and newly acquired skills. Problems have abounded, however, resulting not only from severe South African competition but also from poor selection of candidates. The Unit found itself cushioning a few entrepreneurs with an overdose of subsidies and services in order to protect them from failure. The Unit now intends to phase out the industrial estates programme, using them instead as a base for offering extension services to a wider clientele.

The Rural Industries Innovation Centre at Kanye is funded by the Friedrich Ebert Foundation. It aims to develop appropriate technologies for the stimulation of small-scale industries in rural areas, and has a large staff and a host of facilities to allow experimentation with products such as solar ovens, windmills and mud stoves. It runs some production

*Notes: NORAD is the Norwegian Agency for International Development.

USAID is the United States Agency for International Development.

SIDA is the Swedish International Development Agency.

units of its own and provides low level upgrading services in wood- and metal-work for village artisans. The centre attempts to use local resources and develop products and technologies which can be used in small, low-cost and locally-run production units.

Although all these organisations could provide valuable services to young people interested in self-employment, it is certainly not automatic that they will be among the beneficiaries. Part of the problem is that in practice young people appear to get only a low priority when it comes to distributing scarce resources. There is the complementary issue of the feasibility of setting up young people in self-employment: government officials express doubts about the feasibility of this, claiming that young people are neither interested in nor capable of organising themselves and running a business operation. Such views underscore the low level of interest in youth programmes. It is also significant that the Youth Section occupies only a junior position in the Ministry of Local Government and Lands and that, although Youth Officers perform a valuable role, they lack support.

Of the many problems facing the development of self-employment or cooperative ventures by young people, perhaps the key issue is that young people appear to associate self-employment with the drudgery of rural subsistence farming or the hard work of a small artisan. While it is understandable that they consequently lack enthusiasm, very often youth programmes display an orientation which is hardly more than a slightly improved version of the same subsistence activity. It is of the utmost importance that young people become involved in more substantive production activities at a higher than subsistence level. Those who are motivated and capable need to be assisted to set up small enterprises producing higher quality items with which they can compete in the market and which provide them with a decent income. Such individual or joint production units cannot take in more than a handful of youth and may therefore seem elitist, but when activities are well chosen they need not harm subsistence producers and can contribute to genuine rural development.

The creation of such more viable units requires much assistance from a variety of sources. Proper training in technical and non-technical skills is only one ingredient of this assistance. Together with other inputs training needs to be part of a comprehensive programme to help young people establish themselves, whether individually or as groups along cooperative lines, and whether the training is more of a conventional type or includes a large component of in situ training. Brigade Centres are still in the best possible position to supply this kind of comprehensive assistance as they are close to the community and are in a position to respond more directly to local needs. They can also best mobilise assistance from government sources. All this will not solve the youth unemployment problem but such a type of employment creation, in close touch with the local community and its young people could be a valuable new focus for the Brigade Movement.

CHAPTER FIVE : ZAMBIA

In Zambia models of training have been used which show great resemblance to those in Botswana. Similar organisational arrangements have been introduced. At the same time, however, responding to different pressures and different circumstances, some organisations have developed variations of these models which seemed more appropriate to the needs of out-of-school young people in Zambia. Some projects have come a long way in developing strategies focussing on self-employment, and with some success.

The socio-economic context

While Botswana derived its colonial importance mainly from serving as a reservoir of labour for South Africa and as a transit route to the supposed riches of the North, Zambia, where these riches turned out to be large copper deposits, developed a white-dominated mining economy within its own borders. The centre of this economy became the Copperbelt, with its string of mining towns linked to the South by a railway line which was soon flanked by large white-owned farms supplying a growing urban population.

While this enclave was essentially an extension of the economies of Southern Rhodesia and South Africa, it soon began to develop closer links with the Zambian rural hinterland. Larger numbers of workers were drawn to the mining towns. Not only were rural communities thus robbed of their valuable labour, but rural enterprise, both in crafts and in cash farming, was discouraged and inhibited so that gradually the dependence on the 'Line-of-the-Railway' (which includes Lusaka and the Copperbelt) became an established feature of Zambian society.

Development was very uneven, not only because of the increasing gap between rural and urban living standards, but also because of the wide differences between white and black workers. The number of workers in the mines increased, but Africans were confined mostly to unskilled jobs, while a small number of European artisans monopolised skilled jobs and supervisory positions. Almost until independence, African workers were prevented from entering formal apprenticeship and thus from being recognised as qualified artisans.

After independence, in 1964, priority was given to the expansion and diversification of the modern sector based on the 'Line-of-the-Railway'. In the years following independence, there was a boom period, spurred by an upsurge in government investments and by a buoyant demand for copper at high prices on the world market. The construction and manufacturing sectors both expanded, leading in turn to wage increases and a demand for household goods. Spurred by the 'Unilateral Declaration of Independence' in Southern Rhodesia, and aimed particularly at import substitution, many new large companies were created, or taken into ownership, by the government.

While total formal sector employment in 1964 stood at 269,000, by 1970 it had increased to 390,000. As in Botswana, the mining industry was the main driving force behind this: providing 95% of export revenues and contributing about 30% to GDP. But the industry itself, being very capital-intensive, took on relatively few extra workers.

By 1969 the Zambian population totalled approximately four million, of which just over two million were aged 15 years and over. One-third of the latter were working, partly in the urban-based formal sector, partly in rural subsistence activities. Almost 400,000 people were, in 1969, reported to be seeking work, mostly in rural areas but increasingly also along the 'Line-of-the-Railway'. When restrictions on movement were lifted at the independence, more people were attracted by the demand for this work and the relatively high wages. Thus the urban population grew, by 8% per annum. The proportion of population living in urban areas had risen to 28% by 1969 and continued to rise thereafter, reaching 54% out of a population of 6 million by 1980. This makes Zambia one of the most urbanised countries in Africa. The influx caused great pressure on the urban labour market.

The post-independence period of rapid economic growth did not last. After 1974 (when Botswana began its economic expansion) Zambia went into a recession. Average GDP growth became negative and employment creation in the modern sector stagnated. The flow of new jobs was gradually reduced to a trickle. While it had been planned that during the period of the Second National Development Plan (1972-1976) each year 20,000 out of a total of 67,000 new entrants to the labour force could be placed in formal sector wage-jobs, ultimately the net gain over the period amounted to only 2,820 jobs. By 1976 total employment stood as low as 368,000, increasing again to 384,000 by 1980. The decline particularly affected the productive sectors of the economy, such as manufacturing and construction.

Zambia, already having a delicate geo-political position in Southern Africa, was also hit by the double impact of collapsing copper prices and higher costs of imported raw materials and manufactured articles: its manufacturing industries tend to be rather capital-intensive, aimed at substituting the importation of high-quality consumer goods destined for higher-income groups among the population. This feature has left industry rather dependent on the importation of material inputs as well as technical skills from abroad. It has also favoured bigger, more sophisticated companies over smaller ones, and has seriously limited the growth of productive employment.

The consequence of the post-1974 decline was high rates of unemployment and an increasing involvement of people in various forms of casual work. Although actual figures are not available it is known that, particularly in urban areas, the unemployed revert not only to more traditional types of casual work like domestic service, but also to small trading activities or subsistence productive activities in the 'informal' sector. Many of these are out-of-school young people or women trying to fend for themselves or to supplement meagre household incomes. Few people reach a relatively profitable level of production or trade. Those who do are mainly adult males.

The recession and social pressures to maintain the real value of wages and salaries have also increased income differentials. The employment structure is like a pyramid with a broad base. Incomes at the bottom (in rural subsistence

or the urban informal sector) amount to less than K 200* per year. At a much higher level skilled manual workers within the formal sector generally earn enough to meet the minimum requirement of an average urban household: K 116 per month in 1980. There are then a few who, with their education, manage to enter the high reaches of the pyramid. Discrepancies are substantial: the differential between the lowest and highest paid government employees now stands at 1:24. Such differentials must be kept in mind when assessing the preferences and actions of out-of-school young people.

The government has attempted to reduce such inequalities: it has particularly aimed to increase services for agriculture and to make rural areas more attractive places to live in. Apart from improving physical and social infrastructure, it has embarked upon a policy of increasing prices for agricultural produce, thus improving the rural-urban terms of trade.

Education and manpower

Education benefitted directly from the post-independence boom. A policy was instigated aimed at the desegregation of the existing educational system and a massive expansion so as to enable Zambians to take over the middle and high level positions in the state bureaucracy and the economy as well as to sustain rapid economic growth.

Unlike Botswana, Zambia possessed a complex bureaucratic and economic structure, largely manned by Europeans. It was shown that in 1965, out of the 56,150 manpower positions requiring a minimum of Form 2** qualifications, only 38% were held by Zambians. It was estimated that by 1970 the total requirements for those with Form 2 and above would be 90,000, including 15,000 craftsmen. Translating all this into annual requirements, it was calculated in 1965 that the output of Form 2 eventually would have to reach 12,250. In the same year, 1965, the output of Form 2 stood at 4,500. Thus the wholesale expansion of general education was considered to be essential.

The harmony between estimated manpower requirements and social demand, as well as the availability of government revenue, produced a tremendous expansion of education at all levels between 1964 and 1974. By the end of this period annual Grade 7** output came close to the 100,000 mark while Form 1 intake increased four times. By 1970 Form 2 output already surpassed the number that in 1965 had been regarded as the minimum target. During the early 1970s, however, problems began to appear. The acknowledgement of every child's right to basic education and the usage of the primary leaving examination as the main selection mechanism produced a large surplus of Grade 7 leavers for whom there were no opportunities for further education or for access to manpower positions. None of these youths had any skill to offer in the labour market. In the early years many were still absorbed into the economy as unskilled labourers and often received on-the-job training enabling them, in time, to become skilled workmen. Others found work in the informal sector, sometimes setting up their own workshops, but the majority lived in rural areas and continued to be active in what amounted to little more than rural subsistence farming.

*Note: In 1980 1 Kwacha = US \$1.25; in 1983 1 Kwacha = US \$0.70.

**Note: Grade 7 represents the seventh year of education; Form 1 the eighth, Form 2 the ninth etc.

At the present time, there are virtually no formal employment opportunities left and urban school-leavers have little to hope for beyond doing occasional stints of casual work or reverting to small-scale (sometimes illegal) trading activities. Although opportunities to set up production workshops have diminished due to higher costs of capital and materials, as well as to the lower purchasing power of the manual workers, some of these young people still manage to save enough capital to start a small store or another commercial venture, but both in urban and in rural areas school leavers rarely succeed in setting up profitable production units. Form 2 leavers have swelled their numbers and even Form 5 leavers are following suit.

The government has responded to these problems in two ways. Firstly, it has attempted to diversify the curriculum of both primary and secondary education towards more pre-vocational skills, especially in gardening and some crafts, to help make young people more employable and also to improve the image of a manual career. In practice, however, the introduction of this bias to the curriculum has been beset by difficulties and it has not been appreciated by parents and youth, who saw little value in what to them were clearly mere subsistence activities. Secondly, the government has continued its policy of trying to provide a basic education of nine years duration for everybody. In order to make this possible and also to reorientate the content and focus of the educational system, a reform exercise was undertaken in the mid-1970s. It was an attempt to give education a clear socialist bias, making it more relevant to the majority who did not continue in the system. The structure of opportunities in the economy, however, did not change and there was much resistance to the rigorous methods by which the enrolment was to be ensured. Now the government is trying to achieve nine years basic education by other means, including the encouragement of private junior secondary schools and the involvement of parents through self-help. At the same time the practical bias is still being promoted and all schools have production units, mostly in agriculture.

Although it received much attention in the later years after independence, industrial training has had great difficulties in establishing itself, particularly at the lower, craft level. Historically this is related to the colonial neglect of industrial training as well as the exclusion of Africans from higher technical positions. Not only did this cause manual work to be labelled as being of inferior status, it also created a functional separation between schooling and industrial work. As a result, employers developed the practice of recruiting only unskilled workers and then training them within the enterprise. Although a system of junior trades schools had been set up before independence, their output remained rather low and the quality was not regarded as satisfactory. As a result, they were abolished.

The government has attempted to make industrial careers more respectable by introducing a new series of Trades Training Institutes which take in Form 3 (now increasingly Form 5) leavers, preparing them to become craftsmen. These, too, have had their problems. The graduates of the Institutes have not proved to be particularly attractive to the bigger private companies, while small entrepreneurs generally consider them unsuitable and too expensive. As a result, many are now unemployed. Thus, industry in Zambia was not able to develop close ties with industrial training centres, whether formal or non-formal, which could supply skilled workers at a time they were most needed and at a price that was acceptable. As a result, non-formal training centres aiming at wage-employment for out-of-school youth have had to establish their credibility in the labour market and only a few have been able to become acceptable to employers. Even these few are now in difficulties as demand for manual workers has been reduced to less than a trickle.

The development of non-formal programmes for young people

Non-formal education for out-of-school young people has been a concern of policy-makers since independence. In the education sections of all Development Plans there is reference to the continuation of formal education through different means, such as evening or correspondence classes. Apart from these efforts, the country's leadership attempted to promote skills training and employment programmes for youth, both through the Party (UNIP) organisation and through the government.

The focus of such non-formal programmes was particularly on early school leavers (many at the Grade 7 level) but also on some unschooled and primary drop-outs, based on a policy view that for those who cannot benefit from formal education, non-formal programmes can help by engaging young people in activities which are useful to themselves and to the nation, preparing them for either semi-skilled manual wage-work or, preferably, for self-employment. While the major emphasis, in policy and in resource allocation, has been on the expansion and maintenance of the formal system, UNIP and the government have been supporting programmes which not only cater for large numbers but which are also cheap, and attempt to involve voluntary associations and community groups.

Throughout the 1960s and 1970s, the main government schemes have been first, the Zambia Youth Service (ZYS) (1964-1971) and, more recently, the Rural Reconstruction Centres (RRC) (from 1975 onwards) which are run by the Zambia National Service, the successor to the ZYS. Both programmes were intended to be nationwide in coverage, aiming at involving all out-of-school and unemployed youth. Both programmes also had a double aim: preparing young people for rural self-employment activities and instilling attitudes of patriotism and loyalty to party and government. Trainees were given uniforms, blankets and some pocket money. They had to stay in the camps for several years, after which they were meant to be established in self-employment, mostly through co-operatives. Both programmes can be seen as belonging to the same ideological tradition that generated proposals for educational reform in the mid-1970s: they favoured the establishment of a socialist egalitarian society, in which education is a major instrument to provide relevant knowledge and skills for an abundance of productive opportunities as well as to socialise young people into the norms, attitudes and values of a new society.

But as well as the many logistical problems they have experienced, the Centres appear to have had difficulties in winning the appreciation of young people and the population at large. They came to be seen by many as means of removing out-of-school young people from the urban centres, 'banishing' them to rural areas. The rural opportunities that were held out were often regarded as a 'dead end'. These logistical and motivational problems mean that RRC has remained limited to running only one centre per district (52), involving between 100 and 200 young people each since their inception. Recently all have been turned into cooperatives, thus offering opportunities for settlement. Some appear to be doing well.

A different picture is provided by the skills training programmes established by voluntary associations and other groupings. Starting from a very modest base and often, as in Botswana, growing out of recreational activities such as scouting, many have built up sizeable trades training programmes for school leavers, using modern facilities. Although they too have experienced logistical problems, their popularity has been rising and pressure is mounting to give them greater government support and recognition.

The attractiveness of these schemes increased when it became clear that 'continuing education for all' would take a long time to materialise. In a situation of decreasing educational opportunities, of the encouragement of private and community resources, coupled with a decreasing value of academic qualifications in the labour market, non-formal skills training centres (especially those in urban centres) are becoming a substitute for continued formal education, particularly for those people who cannot sponsor their 'failed' child or relative in a private school or commercial college.

Initially such non-formal training provisions were slow in forthcoming. Immediately after independence, public interest was low, as there was still a great demand for workers with any educational qualification, with or without training. Moreover their establishment depended on the interest, technical expertise and financial resources of voluntary associations or community groups. In 1969 ten schemes existed. Almost ten years later 46 projects could be counted, the majority of which were only of recent origin. Their total intake was estimated to be between 1,000 and 1,500. Most had been established by Churches or Christian agencies and were located along the 'Line-of-the-Railway'. A later count by the Ministry of Youth and Sports in 1981 found 100 schemes, of which 40 could be classified as 'urban' projects, having between 10 and 50 trainees each.

Government support for these schemes has slowly increased. The Second National Development Plan (1972-76) laid down explicit guidelines for the establishment of what were to be called 'community-based skills training projects', noting that they:

- "must be simple, flexible, low-cost, community-based and -managed, and project-orientated;
- should take into account local economic needs and conditions in framing their programmes;
- should aim at training young men and women as far as possible for self-employment;
- should provide some extension service to trainees upon completion of their course".

Using these criteria the government began to subsidise schemes with occasional grants. At first such assistance was administered through a special unit in the Ministry of Education, but from January 1979 onwards it became a major duty of a newly created Ministry of Youth and Sports. There is a Department of Youth Development within this Ministry, whose functions include co-ordinating youth projects and grant-aiding those sponsored by agencies other than the government. Grants can only be used for capital expenditures and usually amount to a few thousand Kwacha at a time. Projects may or may not receive such grants in different years. The total amount available per year for this purpose now stands at K 80,000, although more support for the centres is to come in the form of assistance with project preparation, monitoring, research and advisory services, as well as with staff training. A new Centre for Research and Training is to be established.

The majority of youth training programmes, in both urban and rural areas, have been initiated by voluntary agencies, but few projects are truly 'community-based' in the sense that they have been initiated and are controlled by local people, partly because traditions of self-help in the fields of education and training do not exist, and partly because there is little enthusiasm for anything less than full secondary education. Voluntary associations, on the other hand, often have a well-organised popular base with established channels for local fund raising. Moreover, when they are not part of an international network already they often have good relations with foreign donor organisations who have assisted in establishing schemes and/or from which they receive occasional capital grants for expansion. Most have a practice of charging moderate fees, generally about K 50 per year.

As in Botswana, many of the schemes are engaged in some form of commercial production. Usually this involves the sale of items produced during courses, disposed of at annual fairs or informally offered to relatives and friends. Revenues provide a welcome addition to the current account and the aim is generally to cover the costs of materials. Some schemes, however, explicitly attempt to gain orders which are then produced as part of the training programme. Such orders are generally obtained through personal contacts of the management or instructors. There are a few projects which try to operate on a more substantial commercial basis by setting up a small production unit alongside the training unit. In these cases some former trainees are invited to stay on.

Training programmes usually prefer trainees to have a minimum of Grade 7. Over the years entry requirements have gone up and currently half of the trainees on a typical scheme have a Form 3 certificate. Among Grade 7 leavers it is common to try to repeat Grade 7 or try in the labour market. Only after several years of moving around, doing bits of casual work do many urban young people drift into skills training programmes. Thus they have not only become older (generally 18-20), but they have also acquired some work-experience as well as a conviction that, given the present labour market situation, such training schemes might be their last chance to secure a decent future. Increasingly, the centres have come to cater for the sons and daughters of white-collar and skilled manual workers.

A wide diversity of youth training projects is a major characteristic of the Zambian youth scene. Each organisation has its own ideas about training and employment. A major weakness which results from this is the absence of collaboration or mutual co-ordination in policy and planning. This has weakened their position vis-à-vis other interested groups such as government bodies, local politicians and employers. As a result they have not been able to mobilise the public sympathy and support in the way that the Brigade Movement has in Botswana.

But compared to Botswana, Zambia shows a greater diversity of approach in relating training to employment. While institutional training is still the most common model, many schemes have made explicit arrangements to help graduates move into employment, partly by making 'field practice' a central component of courses, and partly by providing 'placement services' (for wage-employment) or some capital for self-employment. Some of these support services go further, in the form of assistance with settlement*.

Thus four different approaches to relating skills training to employment can be distinguished in Zambia:

Approach 1 : Institutional vocational training, with or without commercial production (often referred to as 'through put' training).

Approach 2 : As Approach 1, but with field practice, placement or start-up capital services.

Approach 3 : As Approach 2, but with settlement services/programmes.

Approach 4 : Training based in an employment/production situation (often referred to as 'stay put' training).

Examples of the application of the four approaches are now described, firstly in the urban context, and then in the rural context.

Urban programmes

Over the years many different skills training programmes have been set up in the major urban centres, offering courses mainly in carpentry and/or dressmaking. Some offered home economics for girls, while others specialised in mechanics or in training nursery school assistants. The common feature of urban programmes is that they follow Approach 1 or 2: they provide conventional institutional training and, in some cases, attempt to assist trainees towards employment upon graduation. Where possible, they prepare trainees not only for their own final examination, but also for a Trade Test so that graduates are officially certified. The Department of Technical Education and Vocational

*Note: Where 'assistance with settlement' services are provided, the responsibility continues, even after graduates have been successfully established in a workshop or farm of their own. As has been noted, this approach has been attempted in Botswana, but has gradually been abandoned.

Training of the Ministry of Education, which has no formal responsibility for such training programmes, but sometimes offers advisory services, has permitted several centres to have their trainees sit for the Grade 7 Trade Test, which in Zambia is the level of a semi-skilled workman.

The increased popularity of non-formal training as an alternative route towards formal sector jobs has resulted in increasing formalisation. Management committees, representing community opinion, are keen to have a proper trades school which has great similarity to a formal training institute. They share with staff and trainees a desire to have up-to-date facilities, electrical equipment, well-trained instructors and an examination with a certificate at the end. In the absence of local funds, foreign aid is necessary, as is the charging of fees. To assess the value of these types of programme some examples of different approaches are now described.

The Kitwe District Council runs the Buchi Vocational Training Project (Approach 2). The Community Development Department seconded three officers to run the centre. There is an advisory committee, consisting of three councillors and the Chief Community Development Officer. It meets once a month and decides on all policy issues. The project was established in 1974, in response to requests from town residents. The council allocated a building and later added a new block with building materials donated by the local Rotary Club. Other contributions were received from foreign embassies and the Ministry of Youth and Sports. The project has expanded rapidly. It now has five sections: carpentry, motor mechanics, electrical, panel-beating and agriculture. It employs 11 instructors, all Zambians with formal trades training certificates except for one foreign volunteer. Each section can have an enrolment of 25. Entry is restricted to male Grade 7 and Form 3 leavers, who must be Kitwe residents. They all pay K 50 (which includes money for overalls) for the course, which lasts one year. Courses ostensibly aim at preparing trainees for either wage- or self-employment and, as a result, the course is made as varied as possible on the technical side. Trainees are taught to use hand tools as well as electrical equipment, and they try their hand at making a variety of basic products or services. Two months are devoted to field practice in local industries, to gain some practical experience as well as to be exposed to prospective employers. At the end of the year trainees sit for a practical and theoretical internal examination, which provides the successful with a certificate. Except for the agricultural students, they also enter for a Trade Test which, according to the reports, the majority generally seem to pass.

There is no attempt at commercial production: products or services are offered for sale at cost price. A consequence of this is that of the recurrent budget of K 52,000 per year, barely K 2,000 is recovered through production. Thus the training is very costly. In order to relieve the financial pressure it has been proposed to set up a separate production unit, which would work on a purely commercial basis and recover some of the training costs.

Having less emphasis on production, the centre is able to introduce trainees to a wide variety of basic skills, products, tools and materials. While this is valuable when preparing trainees for self-employment, its benefit is not being exploited: no non-technical skills are being developed nor are youth in any way provided with assistance towards independent production. Indeed, staff and students hope that the course will lead to wage-employment, and in many instances this seems to be the case.

A training centre which is in many respects like a Botswana Brigade is the Dzithandizeni Trades School in Lusaka (Approach 2). This centre opened only in 1981, and offers a programme in carpentry and tailoring for local boys and girls with at least Grade 7. The centre is a community-based project in that it not only serves the youth of the area, but was initiated and is still managed by members of the local community. The management committee consists of UNIP branch officials, together with the staff and a representation of the trainees. The committee is elected every two years from among local party officials and meets once a week. Unlike in Kitwe, the local Lusaka council only shows a token interest and does not provide material support.

The main similarity to the Brigades is the central place of production. The building itself was erected by a few ex-trainees of another Lusaka training centre under the direction of a foreign volunteer, using a K 30,000 grant supplied by donor agencies. They formed the nucleus of a production unit in carpentry, to which another small one in tailoring was added. Members were employed by the centre, and once the course programmes started, their commercial production was reported to have made enough profit to cover the salaries of two instructors (one for carpentry, one for tailoring), the teaching materials in the tailoring section, and the overheads of the centre. Items produced by the carpentry trainees were sold at cost price, plus a 20% mark-up. At the end of the first course period of 18 months the centre reported an overall net profit of K 3,200; nonetheless the trainees have to pay a fee of K 90, the highest in any training centre.

The courses are similar in nature and general purpose to those in Kitwe, except that they are longer in duration, and that in the carpentry course there is no field practice 80% of the time is spent in the workshop: thus there is much more time for actual production. All students sit for the Grade 7 Trade Test. Of the first intake of trainees (20 boys and 20 girls) all those who sat for the test passed. Reportedly all tailoring graduates (nearly all girls) are now working, mostly in small dressmaking shops. On the carpentry side, however, it was found that there was so little demand for skilled workers that most of the graduates were offered a place in the production unit and were employed by the centre on a piece-rate basis.

Thus far the experience at the centre would seem to demonstrate that at a modest level of operation, with no heavy bureaucracy (like a Brigade Centre-style administration unit) and with adequate management, it is more than possible to cover recurrent costs by allowing a production unit to subsidise training. The production unit prospers because it offers a unique product (furniture made of laminated pine) for a limited market, and because it has built up excellent relationships with its customers.

This situation is both the strength and the major weakness of the unit. From the centre's perspective it offers good prospects for continued employment and profits, but the weakness is that such a production unit is a once-off event, which only marginally benefits the young people and the local community: it creates employment for some young people but it offers no incentive for graduates to set up their own independent production unit. The training has not been geared for this: the question is should it?

A similar question is raised by another training-cum-employment scheme which in many ways is the very opposite of the Dzithandizeni Centre. It provides a very elementary form of 'stay-put' training. It is the Extension Unit of the Lusaka YWCA (Approach 4), and is an example of an attempt by a voluntary organisation to diversify and to develop income-generating activities among poorer women. The programme also attempts to give substance to general community development efforts in activities such as nutrition, cooking and literacy. Its objective is to improve the living conditions of poorer women who have little education and no work, and who could be provided with material resources and a skill so as to encourage their self-confidence and self-reliance.

The programme is run by two extension officers, one of them a foreign volunteer, who have worked with existing women's groups in several townships, helping them to move into income-generating activities. One of the groups, which started in 1973, is located in George Compound, a recently up-graded shanty town. In December 1980 the women there started spinning wool into knitting yarn, which was either sold by the women or used for their own purposes. The wool was obtained very cheaply from a local farm. Later, when it turned out that the wool could not compete with the quality and price of imported wool, it was decided to start weaving the wool into small rugs. At present the group counts 14 members of different ages, most of whom are married.

Training is provided at a central place a few times per week until the women master the basic skills. Then the women produce rugs individually at home at their own pace. The rugs are priced by the YWCA and offered for sale in their shop in town. Once their rugs are sold, the women receive the proceeds, minus the cost of new materials. Income ranges between K 12 and K 60 per week depending on productivity and quality.

There are problems. Although the income makes the women more independent, production and marketing remain very dependent on outside intervention and unless women gain direct access both to sources of materials and a market for their products, their prospects remain very insecure. If the women are to become self-reliant, then they must develop products for markets which are closer to their doorstep, or for wider markets which can be tapped collectively. Productivity is hampered by the fact that the women continue to operate as individuals, and many women have difficulties because of the demands of their families. Only some form of cooperative in a central workshop would enable the women to achieve greater self-reliance and productivity. In this way a valuable initiative of a resourceful voluntary organisation could help women further towards setting up viable small enterprises which reach beyond traditional subsistence activities, offering genuine prospects for independence and advancement.

The final example essentially a 'through-put' training programme (Approach 2) and offers a good example of an attempt to nurture trainees very gradually towards a stage where they can be self-employed. This is the Mindolo Pottery Project, initiated and run by the Youth Leadership Programme based at the Mindolo Ecumenical Foundation (MEF) in Kitwe.

Pottery is a complex activity, involving a variety of different skills: preparation of the clay, designing, production and, finally, firing and glazing. It requires knowledge of the properties of different types of clay and chemicals as well as of a variety of production techniques.

For a course that started in 1979, fourteen Form 5 leavers (both male and female) were selected out of over 150 applicants from around the country. With the help of a volunteer, and using a building and materials supplied by MEC and some donor agencies, a training programme was started which, to date, has not yet been completed. With their instructor, the trainees first carried out research, built a small kiln, and constructed furniture and equipment for their workshop. Then, materials and glazes were tested and only in the third year was commercial production commenced. This is organised in such way that individuals continue to practice all the different skills. Of the income from an item, 50% is for the producer, 25% is saved for his or her own working capital and the remaining 25% goes to the project to meet some of the costs of training. The idea is that by saving their earnings trainees have a basis for starting a workshop of their own, in due course: some trainees will have saved over K 2,000 by the time they graduate. The market potential for pottery is considered to be great, except that it is recognised that the price of pottery, especially stoneware, is such that it is mainly a product for the elite. The hope is to link up with more traditional types of pottery and develop cheaper alternatives, perhaps focussing on unglazed products. In this way items could be produced which are functional, attractive and affordable for lower-income Zambians.

The critical point will be when the trainees are ready to start their own workshop, either individually, or in cooperatives. It is not clear to what extent the assistance of MEC will extend further than providing good quality training plus some capital towards self-employment.

Rural programmes

In general, the urban programmes differ from institutional models for training only to the extent of offering limited services to departing graduates, such as contacts with employers, some working capital, or sets of tools to encourage self-employment. In rural areas, where there is less pressure to adhere to conventional forms of training and where the need for greater institutional adjustment to the requirements of self-employment is more easily accepted, there is more variation from institutional norms: a growing number of examples of projects follow Approach 3, accepting a responsibility for trainees which reaches beyond mere training and a provision of services upon graduation. They explicitly try to focus content and course organisation towards self-employment and also to settle as many graduates as possible into productive work. Moreover they try to offer continued extension services for as long as these are needed. The variety in terms of management and control, sponsorship, nature and orientation of the courses is, however, about as great as in the towns.

The Twafwane Programme, started by the Christian Council of Zambia (CCZ) in 1975, aims to assist in relieving the plight of rural school-leavers by initiating community-based training centres in various places around the country. The programme took some time to get properly under way. By the late 1970s four projects had been started, which successively collapsed, reportedly because of poor management, lack of proper collaboration with local people and high expenditure. By 1980 there was a shift in policy in the sense

that local project committees were made to be fully responsible for projects, with CCZ limiting its involvement to mobilisation, advice, mediation and coordination. But the training remained geared to self-employment, serving local needs and using local resources. In addition the local committees were urged to "feel obligated towards providing continuous extension services to the trained participants". Under this policy more progress has been made, and the Twafwane Programme now has 240 young people, both female and male, in 12 projects. One of these is the Chitambo Youth Project. Chitambo is an old mission station of the United Church of Zambia. The project was started in 1978 by a local UNIP official. The church was involved in that one committee member was a minister and it offered some buildings and land for farming. The CCZ helped by providing capital, tools and a project leader. But financial problems and poor management caused the centre to close down after one year. The project was, however, revamped in 1980 when it was incorporated as an extension activity of the newly formed Chitambo Nutrition Group (CNG): a sub-committee of the CNG elected by the local people now has full responsibility for the project. A local young farmer was appointed as 'enabler', receiving an allowance from the committee. CNG subsidises the deficit of the project, provides materials and has engaged a foreign volunteer to work as an adviser to the 'enabler'.

Trainees are all local drop-outs or early school-leavers, aged between 18 and 20. Currently there are only male trainees. They start off with an institutional training period of 24 months, mainly in agriculture but with some additional basic training in carpentry and building. The aim is to train on-the-job by involving the trainees in the work of a farm. Junior (first year) and senior (second year) trainees work alongside each other, a practice which increases productivity and also intensifies learning. Some revenue is earned from the sale of chickens, fruits and vegetables. It may still take some years until the project can cover its recurrent costs but already Chitambo is considered to be the most successful Twafwane project.

Trainees run their own small plots near the communal farm. Here they work in the afternoons, growing whatever they wish for their own profit. During the course, trainees are given allowances of K 20 per month, K 15 of which is set aside for future working capital. They receive this money partly in kind (hand tools, fertilizer and seeds), and partly in cash.

On graduation the trainees are helped to find a small piece of land, possibly somewhere near their own village, where they can start their own farm. So far one group has completed the course, and the second is about to do the same. Numbers are small, but this enables the project to keep costs low, and provide adequate training and extension services.

The critical period will be the next few years. The project will have to show that it can move towards self-sufficiency and do so without a volunteer. At the same time, however, it will need to be decided whether expansion should take place. It will be difficult to do all this without a higher capital investment, more staff and thus a continued, if not increased, dependency on outside assistance.

Another rural project, which attempts to arrange for extension services is the Youth Project of the Monze Catholic Diocese. Each Zambian diocese now has a Development Committee and a 'Promoter for Development', a person who organises a variety of training and income-earning activities for different groups. The Monze Youth Project includes three programmes: tailoring, carpentry and catering. They are all based within the church premises at Monze Boma, and headed by a full-time principal, paid by the diocese. Only the catering section is supervised by a foreign volunteer. The project has an advisory committee, mainly composed of government officials based in the district.

The tailoring section runs an 18-month dressmaking course for about 25 girls (and some boys), all Grade 7 leavers. They pay K 42 in fees as well as the cost of materials for a uniform. The course covers a wide range of basic skills, all orientated towards self-employment, including cutting, designing of patterns, book-keeping and costing. There is also some academic instruction.

The centre tries, in particular, to help girls, even though they tend initially to have more interest in wage-employment. Some graduates do find such jobs, but a majority stay at home and many of these now have a small business for themselves. The project runs a loan scheme for obtaining sewing machines and has a production unit in which six graduates work, thus obtaining advanced production experience. Production is on a piece-rate basis and half of the girls' share is kept for them as a contribution towards their own machines.

In 1982 some of the graduates decided to stay together and form a production unit in their home area (Lweeta). The group consists of two boys and two girls. With funds from the diocese they were able to buy a small store with living quarters, build a small house and dig a well. The group also received a loan of K 800 as working capital from the diocese. Parents also contributed. With this assistance the group started production of clothing for the local population. After the first loan was repaid, a second one was obtained, of K 1,600, to expand activities, moving into the selling of groceries and starting a vegetable garden and an orchard. It is worth noting that the Twafwane Programme and the Monze Youth project benefit from both the services of a central organisation and community co-operation.

A third project which follows the same basic approach (training with settlement) is much more community-based. It is not only managed by the local community, but actually based in the village and is almost completely self-supporting. The project is the Mesekhochika School Leaver's Project. It covers a total of four chief's areas and about 100 villages.

The project was initiated in 1970 by the (then) headmaster of Mtowe Primary School. His aim was to get local boys and girls together and get them involved in agricultural and other agri-based activities, which could give them a skill and capital base which they might then use to develop their own activities at home, and a group of 15 (ten boys and five girls) from Mtowe village developed a maize farm and a carpentry workshop, the latter in the village. The land for both projects was allocated by the local senior headman. Other assistance was obtained from a secondary school, which donated carpentry tools, and from the Ministry of Education, whose small gift of money was used to start a poultry project. General support was also received from the Chipata Diocese. From 1976 two foreign volunteers were appointed to manage the project, which led to further expansion, such as the establishment of a tailoring and a blacksmithing unit, all in the same village.

These various units are involved in production and train young people on-the-job. New members join the project, usually after leaving Grade 7, and the intention is that they stay for a long time, even up to five years, to give them ample time to acquire production skills as well as the resources to use them as independent producers. First, all trainees receive basic training in agriculture: boys receive additional instruction in woodwork and metalwork, and girls in dressmaking, cooking, baking and some spinning and weaving. After this basic training the trainees can specialise in one skill, though agriculture remains part of everyone's programme.

Each young person develops a small garden at home and in addition they are encouraged to start other kinds of production activities at home, so that they are involved both in training-cum-production in the project and in producing for themselves. The idea is that gradually the latter receives more emphasis until, at graduation, the trainees are able to stand on their own. Here again working capital is obtained from the trainees' share in collective production: one-third of the income is for the producer, one-third for materials and one-third for the project. Both the project and individual trainees are members of the village credit union, from which loans can be obtained. Former trainees can continue to come to the central workshop to receive advice, to obtain materials or to use equipment. The project instructors are now former trainees, and it is hoped to attract local volunteers to lend a hand in the project. Most goods are sold locally and there is said to be much demand for the project's products among the population.

An essential feature of projects following the training-with-settlement approach is that the trainees not only receive an appropriate technical and non-technical training for self-employment, together with an opportunity to build up some capital, but also, once they are producing on their own individually or collectively, they continue to have services from the project at their disposal which they can rely on for essential technical and material assistance.

It is useful to find out to what extent such services are essential in easing young people into productive and profitable settlement and whether the same effect cannot be achieved in a more diffuse manner, for example through intervention by government extension officers. This is the approach of the Londokeni Youth Scheme. This group now consists of sixteen young men and ten women who live in a small cluster of villages. Their age range from 18 to 26. Most are Grade 7 leavers, who left school some years ago. The group was formed in 1981 with a view to starting a collective farm. Instrumental in this initiative had been a Coffee Development Officer based in the province, who came into contact with the group, was interested in helping them, and encouraged them to organise themselves. The officer contacted the local District Secretary, the District UNIP Chairman and the provincial Youth Development Officer of the Ministry of Youth and Sports. As a result the group received some assistance with funds and technical support, seeds and fertilizer from the local Department of Agriculture. The young people had been growing vegetables on individual plots at home and had thus raised some money to start growing maize on part of a large plot of land allocated to them by the local chief.

The group runs its own affairs, through an elected committee of nine members which is responsible for coordination and planning. Sub-committees are in charge of different activities and there is also an advisory committee consisting of some local farmers, parents, and officials. The group is not a legal entity, but there is interest in registering as a cooperative.

It might be concluded that groups such as Londokeni will remain rather unique for as long as there is no adequate infra-structure at the district level to help identify and sustain the initiative of young people. Some progress, however, is being made in the context of the current moves towards de-centralisation of government services. As in Botswana, districts are given more responsibilities for local development: if they are also offered more staff and funds to carry out these tasks then young people may benefit.

Government involvement

Considering developments in non-formal training arrangements for young people in Zambia, certain trends are visible. Firstly, the focus of the training has gradually been shifting from wage-employment to self-employment. Secondly, interest, both among young people and parents, in the possibilities of self-employment has been rising. Thirdly, this has led to more community initiatives to set up programmes as well as to a greater collaboration between voluntary associations and local communities.

The Ministry of Youth and Sports is very much involved in these developments and has a deliberate policy of promoting training for self-employment with close involvement of local communities, local authorities, development committees at different administrative levels, and voluntary organisations. An objective laid down in the Third National Development Plan is "to reduce youth unemployment through their direct participation in production schemes, especially agri-based industries, agricultural settlement, and small-scale industries. The Youth Development Plan makes provision for economic development programmes and skills training for the youth".

As has been noted previously, one instrument to achieve this objective is to offer supporting services to 'community-based' skill training programmes. But while the definition of 'community-based' has been spelled out a long time ago, the allocation of subsidies would appear to indicate that the definition is not, in practice, being followed. Perhaps the establishment of the Department of Youth Development (DYD) in the Ministry will help to change this.

A second policy, under the Third National Development Plan, has been to set up "skills-training-cum-production-centres" for youth in all districts under the control of the DYD. The schemes will be low-cost, enrolling about 50 youths at a time, and prepare them for self-employment in locally relevant skills. Graduates will receive assistance towards settlement in small income-generating enterprises, either as individuals or in cooperatives. But the programme has developed slowly and thus far only two projects are in operation: Chiyota in Lusaka Rural District, and one in Lundoazi District, with two more in the process of being established and one more, previously under the Ministry of Agriculture, now being taken over by DYD.

The Chiyota Skills Training Centre has become the prototype for these DYD youth training programmes. The project is located near Chiyota school in Lusaka Rural District and has been operational since mid-1982. The centre has three classrooms in the form of a wooden, open structure supporting a thatched roof. There is a small brick storeroom adjacent to each classroom, a common shelter, a central storeroom and three staff houses. A separate carpentry workshop is now

under construction. So far about K 50,000 has been spent by the DYD on buildings, equipment and training materials. The project manager, four instructors, as well as six clerical and manual workers have been appointed. DYD is advised by a management committee consisting of local dignitaries, some parents, the manager himself and a representative of the trainees.

The centre aims to train local out-of-school young people in agricultural, carpentry, bricklaying and tailoring skills for self-employment within their own community. The programme therefore follows Approach 3: the 'training with settlement' approach. The training component consists of nine months basic training in agriculture and in other skills. All together, about one-third of the course is devoted to workshop practice, one-third to field practice outside the centre, and the remainder includes both a general introduction to self-employment and some instruction in basic business skills. As much as possible of the field practice is done in the community: for example, during the first course the bricklaying trainees were involved in the construction of a local church and a clinic, and the carpentry section produced furniture for a local primary school. Trainees pay no fees, and receive part of the revenue earned as an allowance for their upkeep. The centre is in the process of setting up separate production units in each of the four skills, with the specific goal of making money for the centre.

Upon completion of the course, trainees do not sit for a test at the centre but are allowed to go for an official Trade Test. Of the first intake (1982-83) of 41 youths, 20 sat and 17 passed. All graduates are encouraged to form groups and establish themselves somewhere in or near the home area. Each group is provided with a basic set of tools and materials, amounting to a total of K 2,000 per group. Five groups have so far been formed, not including those who had been accepted for the first production unit at the centre itself. One group has established itself in Chinyunyu, where a total of four boys (carpenters) and seven girls (tailors) are renting a small building which had once been a restaurant, in which they live and work.

All together, the Chiyota project appears to have got off to a good start. Some of the issues that remain are similar to those raised elsewhere in this report: one is the place and function of the future production units within the centre. While it seems a very attractive proposition to set up separate commercial units for purposes of fund raising, the question remains as to whether it is appropriate to separate training from genuine production. Trainees might become better prepared for self-employment if their training is longer, related to production and, as has been shown in the case of several other projects, the graduates can successfully use a production unit to assist and mediate in the growth of their own businesses. A separate production unit will have difficulty performing those functions and rather than serving the interests of trainees and graduates, it may well work against them, for example by providing undue competition.

Related to the above is another question concerning the relationship between the output of the centre and the absorptive capacity of the local economy. Training batches of 50 youths each year is likely to saturate a wide area very quickly with village artisans. It may be more proper to train small numbers of young people for a longer period, taking in new trainees from time to time until demand is fulfilled. A centre should be prepared to move into different activities, setting up a new workshop with extension services, providing training and other support for which there is a need in an expanding local economy.

Finally, even if DYD prefers to continue having ultimate control over the centres, it is important gradually to reduce its actual involvement. Mechanisms should be found to increase local self-management and reduce subsidies to the recurrent budget to the essentials. For example, the provision of six supporting staff seems extravagant: much of the work could be done by the trainees. Apart from DYD support more sources can be mobilised, such as the Agricultural Finance Company and local credit unions. Carefully worked out measures are essential if the Ministry is to succeed in setting up such centres in every district as well as find the resources to continue supporting the large number of community-based training programmes.

National support

While the Ministry of Youth and Sports has thrown its full weight behind efforts to create employment opportunities for young people, other developments have taken place in the wider national context which can potentially support this policy.

One important step has been the formation of two national service organisations: the Village Industry Service (VIS) and the Small Industries Development Organisation (SIDO). VIS came into operation in 1980 and is a voluntary association linked to the Ministry of Industry and Commerce. Its aim is to encourage and assist small scale artisanal activities at village level. These are typically cottage industries located in people's homes or in small workshops, using labour-intensive production methods. VIS gives priority to supporting clusters of industrial activities in the villages as well as in peri-urban areas. This is done through feasibility studies, project planning, mediating to obtain credit, offering industrial extension services and by monitoring projects. Such services can be provided in close collaboration with voluntary organisations or other local bodies.

Presently VIS resources are still limited as it has no funds of its own and virtually no field officers. Although it is intended to work closely with the new office of the Secretary for Industry and Commerce which is being introduced in all districts, VIS still hopes to have its own personnel to work directly with village groups. It has further plans to assist such groups with the procurement of raw materials and to extend its marketing services by establishing regional depots. Currently initiatives are being taken to set up a training and service centre for small entrepreneurs in each of the nine provinces.

SIDO was established by Act of Parliament to operate under the Ministry of Commerce and Industry. It started operating early in 1983. SIDO's tasks are similar to those of VIS, but its services are focussed on a more substantial level of business operations: it caters only for 'small scale industries', defined as enterprises with a capital outlay of between K 10,000 and K 250,000. SIDO supports both labour-intensive and more capital-intensive projects, though its emphasis is on employment creation, the development of local resources and the meeting of local demand. SIDO aims to follow two priorities: assistance to potential industrial entrepreneurs, and the establishment of industrial estates in each province. SIDO does not have its own loan funds but, like VIS, mediates in obtaining credit from a commercial bank or the Development Bank of Zambia.

Through a new subsidiary, called Small Scale Enterprises Promotion Ltd, the latter is now geared to finance projects with a capital outlay of over K 5,000. Progress is being made in setting up a credit guarantee scheme through which loans are disbursed through SIDO or VIS, while the banks would be insured against default by a guarantee from the Bank of Zambia.

Generally speaking, out-of-school young entrepreneurs and youth production units are more likely to benefit from the services of VIS. Not only does it operate at a level which is more appropriate for the majority of young people, it also has a more explicit policy of assisting disadvantaged and poorer groups in society, including rural women and youth groups.

Technical and research support provided by VIS and/or the Ministry of Youth is badly needed to help diversify the range of activities promoted by training schemes. The emphasis on carpentry and tailoring must be broken: more effort is needed to investigate the potential in such activities as tannery and leatherwork, blacksmithing, textile printing, ceramics, agricultural mechanics and toy-making.

Even though more services are becoming available for employment creation, of critical importance will be the existence of mechanisms that help to channel such services to young people. For quite some time to come the involvement of voluntary associations and private individuals, not only as vehicles for training but also as enablers, and as mobilisers of outside support, will remain essential. Their efforts could well be complemented by new Youth Development Officers in the Districts as well as, for example, special youth liaison officers who could be appointed at the provincial training centres to be established by VIS. Even when a national Centre for Research and Training has been established by the Department for Youth Development, it will be valuable for DYD to work closely with VIS at the provincial level in establishing a technical and material support structure for youth projects.

More out-of-school young people, both in urban and rural areas, appear to be interested in operating as a group. Where this occurs they work out informal arrangements for distributing the work, for the joint or individual ownership of tools and equipment, and for the sharing of the profits. The preference is often 'eventually' to turn the group into a formal cooperative, partly to formalise the relationship, partly so as to become a legal entity and thus facilitate dealings with the formal economy. Here, however, problems arise. In Zambia the cooperative movement has had an eventful history. Following many bad experiences with producer cooperatives, the emphasis has come to be predominantly on service or multi-purpose coops, and at present only a few industrial (service) cooperatives are in existence, including some in carpentry and building. All this means that youth production units do not have much to look forward to in terms of support to form production coops. Additional problems are that the minimum number of members of a cooperative should be ten, which is excessive for a production coop, and that, while the minimum age for joining is 16, one must be 21 years old to be eligible as a committee member. Such regulations, together with the requirements for members to make substantial financial contributions, do not aid the promotion of production cooperatives among young people. However, a recently held regional conference for East, Central and Southern Africa on the participation of young people in cooperatives (Lusaka 1982), organised by the International Cooperative Alliance, has encouraged national cooperative movements to pay more attention to the needs of young people.

Cooperative savings and credit societies coordinated by the Credit Union and Savings Association of Zambia have expanded rapidly over the last decade: there are now 62 unions around the country. They enable communities to mobilise their own resources for mutual benefit and have become important vehicles for community-based development. Such credit unions can provide financial benefits to young producers and involve young people in community affairs in a manner that appeals to their consciousness as productive and educated members of the community. Reciprocally, they also give the community an interest in the economic activities of younger members.

There are many signs in Zambia that not only are many more out-of-school young people becoming interested in creating their own employment, but also that voluntary agencies and government departments are becoming more sensitive to their specific needs, recognising that, apart from a re-orientation of training, more structural measures need to be taken. If this is done in a consistent manner, it may help greatly towards relieving youth unemployment.

The principal purpose of this study has been to examine a variety of approaches that have been developed in Botswana and Zambia orientating training towards self-employment, and has concentrated, in particular on the institutional development of training arrangements, the nature of the course programmes, the place and role of productive activities and the measures taken to enable young people to settle into productive self-employment, having regard to the wider context of the two countries and the changes in their socio-economic structure. Some tentative conclusions and recommendations can now be made.

Youth training and employment

Non-formal training for out-of-school youth cannot be viewed separately from the wider socio-economic context. The perceptions of young people and other groups, such as politicians, educators, employers, are guided by this context. In both countries access to more rewarding jobs became conditional upon the completion of certain levels of education. Thus formal education turned into a preparation and selection system for workers entering a relatively small, protected category of white-collar jobs in the modern sector. Many school leavers could not be absorbed into these jobs and, when the minimum qualifications for entry began to rise further after independence, their numbers grew alarmingly. At present, although prospects in Botswana seem brighter than those in Zambia, many young people in both countries are still being prepared for a future in which they will have no part.

In this context non-formal programmes for young people outside the formal educational system gained a certain attraction as an alternative route towards other, manual, jobs in the modern sector. For such jobs young people were turned away by the employers not because they had few or no educational qualifications, but mainly because they lacked vocational skills and/or work experience. As non-formal youth programmes began to offer skill training, they made up for an important deficiency and thus gave some a chance to move up in the long queue of those seeking work.

In Botswana the establishment of skills training programmes preceded the wholesale expansion of the formal sector, so that when the latter took place in the mid-1970s, a number of young people were already available who had gained a good quality vocational training and, moreover, had gained their skills while doing productive work. Thus they had the type of training which is generally well appreciated by employers as a preparation for semi-skilled jobs. Supply has still not been able to meet up with demand, so that in several trades Brigade graduates can still move into fairly well paid and secure formal sector jobs.

In Zambia, where the modern sector was already well established during the colonial period, there was a strong tradition of training workers within industry. When non-formal training centres began during the 1970s they not only faced such vested traditions of industrial training, but an economic recession. Thus, while in Botswana non-formal skills training could unofficially turn into a major supply source of labour for modern industry, in Zambia it remained only a marginal source, enabling only very small numbers of graduates to be gainfully

employed. This linkage to the modern sector has had important consequences for the organisational development of the training. Both parents and school leavers began to see such training as having some value as an alternative route towards a secure job, albeit one that was far less rewarding than what could be gained with higher formal education qualifications. This has contributed towards the formalisation of training centres in Zambia. In contrast, the Brigade movement in Botswana was based on a philosophy that attached great value to the principle of cost-recovery through production. This has helped the centres to retain (thus far) a continuous interaction of theory and practice.

Both in Botswana and in Zambia the governments initially offered only some supporting services in the form of subsidies and coordination. Later, their interest began to increase, but for different reasons. In Botswana the government is attempting to gain more direct control over a training system which has become a very vital source of semi-skilled manpower for the modern sector, hoping to turn it into the bottom part of a national technical training structure. Thus there have been proposals for complete government take-over and the conversion of Training Brigades into trade schools. In contrast, non-formal training in Zambia has always been seen by party and government primarily as a way to offer some alternative to young people excluded from further education and formal sector wage-employment. Policies aimed at encouraging training that would help such young people to become productive in some form of self-employment, preferably in rural areas, have been developed. Significantly, the coordination of such training was removed from the Ministry of Education and entrusted to a separate Ministry, which is now also developing its own programmes geared towards self-employment.

In Zambia organisations have been forced to pay more attention to the issue of self-employment. As noted, this was not popular: self-employment lacked status and there was a lack of supporting services that could give young people a reasonable chance to establish themselves. Initially many training programmes focussed on both wage- and self-employment, but the implications for training organisation and services were not considered. If leavers could not find a semi-skilled job, they generally reverted to casual work or to subsistence activities which were frequently unrelated to their training. But in rural areas, new approaches are being developed which are more relevant for self-employment, and similar approaches are being tried in the towns as well. These place more emphasis on employment-based or stay-put training. They also give more attention to production-based training so that most of the learning takes place on-the-job, and they have developed various arrangements to assist young people in starting up their own business, whether individually or collectively. The two countries have developed different systems in this respect: the importance of the Botswana experience lies very much in the combination of training with production, while in Zambia the importance lies more in the various experiments with after-care services.

Three conclusions can now be drawn:

1. It does not appear feasible to have training programmes which aim both at wage-employment and at self-employment. Even if the practical core-skills are similar, there are likely to be significant differences in the total composition of the skill package required, as well as the level of proficiency that is needed. It is also important to prepare young people mentally for a future in self-employment. Even if they are willing to consider self-employment, their interest will have to be nurtured,

partly by enabling trainees to experience the satisfaction of participating in running their own affairs, and partly by ensuring that sufficient follow-up assistance is available so that they have realistic prospects of gaining a decent income.

2. Training for self-employment is a difficult and laborious task that can affect only small numbers of out-of-school youths at a time. Self-employment cannot be regarded as the solution for the youth employment problem; neither can the economy adequately absorb great masses of young self-employed people; nor can all young people be regarded as having the capabilities to run a successful farm or workshop.
3. Training for self-employment can also not be the major strategy to help the young school leavers. For as long as school leavers are primarily concerned with modern sector wage-employment, it is unlikely that they will settle down quickly in self-employment, even where this is a promising option. Even in Zambia, where the interest among the young in self-employment is growing, one finds that the young people who organise themselves are generally the older ones. Programmes that take in youths at a younger age deliberately stretch out the training over a longer period so as to give them time to adjust and slowly get used to the hard work and responsibilities that lie ahead.

Approaches to training for self-employment

In Chapter 5, four approaches to combining training and employment were outlined: institutional training (Approach 1); idem, but with field practice and placement or capital services (Approach 2); idem, but with a clear programme of settlement and extension services (Approach 3); and employment-based ('stay put') training, in which actual production comes first and training is supplied as one essential input (Approach 4).

Theoretically, each of these approaches can be used for the purpose of both wage- and self-employment.

As has been noted training cannot, in practice, adequately serve both wage- and self-employment ends. Indeed, where this was attempted, using Approaches 1 and 2, training became increasingly geared towards modern sector wage-employment. Formalisation, which tends to be found in wage-employment orientated schemes, makes the programmes still less suited to assist young people towards self-employment: it tends to partition what is essentially an integrated learning process into a set of unrelated 'subjects', strengthens the technical side over the business and motivational side of the training and, above all, strengthens theory over practical application.

Special comments need to be devoted to the place and role of production as part of the training. Such production takes many forms: it can simply mean 'workshop practice', providing an opportunity for trainees to practice skills while producing items that may or may not be sold. In other cases production refers to a period of 'field practice' which takes place outside the confines of the training centre.

But in some cases, commercial production becomes the central feature of the programme. The Botswana Brigades, which have pioneered this model, have demonstrated that trainees can gain an adequate skill level as well as recover most of the recurrent costs of their training (not including instructors' salaries), while being engaged in production. Thus the training can be cheap. While the importance of this must be acknowledged, it cannot be concluded that production-based training is necessarily conducive to self-employment. Production can take different forms and serve different ends, depending on the relationships of those involved to the means of production: it can at the one extreme be used to 'drill' youth to become efficient and obedient workers or at the other it can be used to prepare young people to take full responsibilities as producers and joint owners of a cooperative enterprise. It would appear that in spite of the original aims of the Botswana Brigades, in practice their usage of production in training comes closer to the former alternative than to the latter. This may not only result from social pressures to gear training towards wage-employment, but also from the need to cover training costs. Such pressures make it very difficult to orientate production towards self-employment.

Of the various approaches that have been attempted to relate training more directly to self-employment, it would seem that Approach 3, training with settlement, offers the greatest advantages. Such an approach has two central components. One is a centre where training can be given and which can provide support and extension services. The second is the establishment of a number of independent production units in the area, but outside the centre, run by young people who are trained by, and continue to receive services from, the centre.

In this context it is possible to come to some tentative conclusions about production units (PUs) which have been established within training centres. Such practice has become common in Botswana, where many Brigade centres have several PUs, thus ensuring a diversification of the Centre's general activities. In Zambia this has only been done to a more limited extent.

PUs have been set up for three different reasons: to raise extra funds to cover the costs of training; to be a means of creating employment; and to be a way of providing further on-the-job training.

However, as has been noted, the general experience with such PUs has been rather disappointing. The main problem has been that they have had a hard time making ends meet. In Botswana, despite generous donor funding, and despite technical assistance in management, the Brigade PUs have generally not been able to generate profits to be used for training or the upkeep of the central administration. Management has been poor and the South African as well as local competition (often from former trainees) have created many problems. While some local employment was created, this was more of the casual type with low wages and there has been little opportunity for the provision of further training. Although in Zambia there are examples of PUs faring better, there have been similar problems.

The basic question is whether PUs should be part of a training centre or should be seen as separate from the production taking place during training.

Where a centre aims to help young people towards self-employment a PU can hardly have a function in this preparation, unless it is run as a cooperative enterprise and allows members to save capital for their own future. In turn both these features will seriously affect the PU's capacity to make a profit for the centre: sooner or later a choice will have to be made between the interests of the centre and those of the trainees. The history of the Brigades is again a good testimony to this.

Four further conclusions can now be drawn:

4. It has been demonstrated that training for both wage- and self-employment can gain in quality when it is based on actual production. This puts an emphasis on the practical application of the various skills and exposes the trainees to the rigours of working for the market. Nevertheless the nature of the tasks to be done by the trainees as well as the overall organisation of production must be carefully structured if the training is intended to lead to self-employment: it will require substantial participation of trainees in a decision-making, planning, product-design, price calculations and in profit sharing.
5. Considering the various possible approaches to relate the training to self-employment, the most valuable one would appear to be the approach whereby institutional and employment-based training are combined. This can best be done by enabling the young people to establish their own productive units with the help of services offered by a central training and service centre, which provides basic training in certain trades and follows this up by assisting with material inputs as well as continued extension services.
6. Training centres geared towards the promotion of self-employment cannot be fully cost-covering. Ideally, trainees should be able to stay for several years, according to the complexity of the trade. Once one or more individuals are ready to start their own productive activities elsewhere the emphasis should gradually be transferred to assistance in their home situation. Because the emphasis is on providing services to the young rather than on production as such, increased financial assistance should be forthcoming.
7. The only objective for production units within a centre should be to integrate production with training and extension work. An extra and separate PU to raise funds should only be set up if there is sufficient capital and adequate management to make it operate profitably and if it does not interfere with the primary purposes of the centre. Such a PU should be run as a fully autonomous unit and, depending on the market, might best engage in activities which are very different from those in which training is provided.

Community, voluntary organisations and government

Some final conclusions can be made about the administrative and management context in which youth training programmes operate. It has been noted that non-formal programmes have mostly been initiated, and are still run, by large, national voluntary organisations. Relatively few are run by small, local community groups or by government departments. While in Zambia such voluntary organisations are mostly religious bodies which have a dispersed membership, and are not attached to a particular locality, in Botswana the Brigade Development Trusts, which are also voluntary organisations, clearly have a localised community base.

A project that can be regarded as 'community-based' has been initiated by local people, is controlled by representatives from the local community specifically elected for that purpose, and primarily serves the needs and interests of that community. The essence of this definition is not affected if a project is established by local people in collaboration with a government department or a voluntary organisation. On the contrary, such collaboration may be vital in mobilising a local community to organise itself.

Apart from the wider principle that it is valuable for communities to control their own development, there are several practical reasons why they should be closely involved in youth training and self-employment programmes. The central reason is that such programmes cannot become successful unless the local people are clearly committed to their support. Not only can they help motivate their young people to participate in the programmes, they can contribute by making land available, provide capital or labour to enable graduates to settle, and, finally, buy the products or services offered by the new local enterprises. Finally, there is the potential for direct local participation in the training centre itself: centres will be cheaper as well as more effective if local people contribute with labour to their establishment or if local farmers, artisans and businessmen can be involved in the actual training on a voluntary basis.

Given the preoccupation among the public in general and among the youth in particular with 'schooling for wage-employment' and a widespread reluctance to attempt self-employment, there is much scope for direct government assistance in mobilising communities to give local self-employment more consideration. This is partly a matter of demonstrating that self-employment offers clear material benefits, but, in addition, it is important for government officials to communicate with local leaders and increase awareness of what can be done by people themselves and what tangible assistance is available. So often local people have valuable ideas, and want to take initiatives, but do not know about assistance programmes, or find communication channels blocked.

While there is thus a great need for a wider government-organised support structure, it is not so clear as to what extent government should get involved in actually setting up and running youth training programmes. As has been shown, training for self-employment requires a close integration with the local socio-economic environment. Programmes need to be based on production and they need to be very flexible, to be able to respond directly to changing local needs and markets. Government intervention in training programmes, however, generally promotes uniformity and standardisation of programme content; it promotes the

adoption of higher qualification requirements for instructors as well as for incoming trainees; and it discourages production and direct training on-the-job. Important underlying reasons for this are the pre-occupation of government departments with national interests and national training needs, their need for administrative regulations and standardised accounting procedures. As these are difficult to harmonise with the intrinsic needs of training-for-self-employment programmes, and where direct government involvement is attempted, it requires careful balancing on administrative and political tight-ropes.

As has been noted, there is ample scope for the involvement of voluntary associations in the sphere of youth training for self-employment. They can complement government efforts and are in an excellent position to establish the kinds of training and service centres suggested in the previous section. Where voluntary associations have a base in local communities they can be very effective in mobilising the people and obtaining their support. Church organisations, though they have a more scattered base of support, can well perform such mobilisation roles and also contribute by making other resources available, such as land, buildings and a wide network (nationally and internationally) through which technical and financial aid can be channelled. An essential role of voluntary associations appears to be that of mediation between local communities and the national structure of social and economic services, helping local groups to formulate needs, to take initiatives and to mobilise their own resources, while mediating the provision of available government and other services.

Five further (and final) conclusions can now be stated:

8. Because of the special nature and requirements of training-for-self-employment programmes, they need to be as far as possible 'community-based'. Local people and the young people themselves should be involved in the planning, establishment and running of training centres. Regardless of who the original initiator was, such locally based management committees should have more than advisory functions and be closely involved with the policies and general affairs of the centre.
9. The government has an essential role to play. This should include, foremost, measures to ensure that young people have adequate access to resources, including land and credit, and that they can find markets for their products and services. The latter can be promoted by government departments, and local councils, schools and clinics giving priority to placing orders with small enterprises, especially those run by young people. In addition it is important the government departments and government-controlled organisations involved in extension work (especially agriculture, industry and community development) employ more officers whose specific duty it should be to provide extension services.
10. The first priority of government should be to provide adequate support to existing community-based projects as well as to work together with local groups to establish new ones. It is imperative that government and management committees running existing programmes should come to clear agreements as to the degree and nature of government intervention. Once the lines are drawn and criteria are established they should be applied as consistently as possible.

11. If a government Department of Youth still finds good reasons to run its own youth training programmes aimed at self-employment, it should ensure that there is maximum local participation in their centres. In such cases it should also try to avoid the development of a dual structure for youth training, whereby there is one system run by government and one run by community groups or voluntary associations. If preferential treatment is given to government centres, it would be especially detrimental for the truly community-based projects, which deserve much support.
12. Voluntary associations should be encouraged to continue to be involved in youth training for self-employment especially where this can complement government and community efforts. There should, however, be much more government control over the nature of activities set up by voluntary associations. This is partly to ensure that they adequately assist young people towards employment, and also that there is proper administration and management. Finally, it is important to monitor foreign technical and financial assistance channelled to projects of voluntary associations as well as to other community groups.